CI270CW

533MHz FSB / VGA / DVI / Multi-COMs / LAN / Mini PCI / PCIe mini card

Intel Atom N270 . 533MHz FSB . All-In-One .

Audio . LAN . Mini PCI . PCIe mini card

SATA . 8 USB . CF . Wide range DC-input

Multi-COM Board

NO. CI270CW
Release date: OCT . 01 . 2009

Contents

CI270CW
Warning!..... 1
Hardware Notice Guide 2
CHAPTER 1 GENERAL INFORMATION 4
1-1 MAJOR FEATURE..... 5
1-2 SPECIFICATION 6
1-3 VERTICAL SODIMM ASSEMBLY GUIDE..... 7
1-4 DIRECTIONS FOR INSTALLING THE MINI CARD 8
1-5 INSTALLING THE MINI PCI CARD 9
1-6 PACKING LIST..... 10
CHAPTER 2 HARDWARE INSTALLATION 11
2-1 UNPACKING PRECAUTION 11
2-2 UNPACKING CHECKUP 12
2-3 DIMENSION-CI270CW (200 x 150m) 13
2-4 LAYOUT-CI270CW 14
2-5 DIAGRAM-CI270CW 15
2-5-1 BOTTOM SIDE DIAGRAM-CI270CW 16
2-6 INSTALL MEMORY 17
2-7 LIST OF JUMPERS 18
2-8 JUMPER SETTING DESCRIPTION 19
2-9 JSB1: CMOS DATA SET 19
2-10 JVF1: CF CARD POWER VOLTAGE SELECT 20
2-11 JSF1 CF CARD MASTER AND SLAVE SELEC 21
2-12 JSP1: AT / ATX POWER SELECT 21
2-13 COM PORT PIN9 SELECT RI SIGNAL OR VOLTAGE SOURCE 22
2-14 JSC3,JSC31/32/33/34: COM3 RS232/422/RS485 SELECT 23
2-15 JVL1: LVD PANEL POWER SELECT 23
2-16 JVP1: LVDS PANEL INVERTER POWER SELECT 24
2-17 JVU8: USB PORT 8 VOLTAGE SELECT 24
2-18 JSD1: DPC DUTY SET 25
CHAPTER 3 CONNECTION 26
3-1 LIST OF CONNECTORS 26
3-2 FAN CONNECTOR 28
3-3 SATA INTERFACE 28
3-4 IDE CONNECTORS 29
3-5 COMPACT - FLASH MEMORY SOCKET 30
3-6 VGA CONNECTOR 31
3-7 DVI-D CONNECTOR 31
3-8 KEYBOARD AND MOUSE CINNECTOR 32

3-9 USB PORT 33
3-10 LAN CONNECTOR 34
3-11 COM PORT CONNECTOR 35
3-12 AUDIO PORT CONNECTOR 38
3-13 AUDIO AMPLIFIER CLASS D TWO CHANNEL 6W/CH 39
3-14 LPT PORT 39
3-15 WDT/DIO FUNCTION PORT 40
3-15-1 FOR F75111N I2C WATCH DOG TIMER DEVICE: 40
3-16 I2C WDT/DIO W75IO.H REFERENCE SAMPLE CODE: 41
3-16-1 I2C WDT/DIO F75111N REFERENCE SAMPLE CODE: 45
3-17 LVDS INTERFACE CONNECTOR 55
3-18 PANEL POWER CONNECTOR 55
3-19 TOUCH SCREEN DEVICE 56
3-20 DC 12V IN 57
3-21 DC +5/+12V OUTPUT CONNECTOR 57
3-22 I2C BUS INTERFACE 58
3-23 MINI CARD 58
3-24 FRONT-PANEL 59
CHAPTER 4 INTRODUCTION OF BIOS 60
4-1 ENTER SETUP 60
4-2 GETTING HELP 61
4-3 THE MAIN MENU 61
4-4 STANDARD CMOS FEATURES 63
4-5 ADVANCED BIOS FEATURES 64
4-5-1 HARD DISK BOOT PRIORITY 66
4-5-2 USB BOOT PRIORITY 66
4-6 ADVANCED CHIPSET FEATURES 67
4-6-1 PCI EXPRESS ROOT PORT FUNC 69
4-7 INTEGRATED PERIPHERALS 70
4-7-1 ONCHIP IDE DEVICE FUNCTION 71
4-7-2 SUPER IO FUNCTION 73
4-7-3 USB DEVICE FUNCTION 74
4-8 POWER MANAGEMENT SETUP 75
4-8-1 PCI EXPRESS PM FUNCTION 76
4-9 PNP/ PCI CONFIGURATION SETUP 77
4-9-1 IRQ RESOURCES 78
4-10 PC HEALTH STATUS 78
4-11 FREQUENCY / VOLTAGE CONTROL 79
4-12 LOAD FAIL-SAFE DEFAULTS 79
4-13 SET SUPERVISOR / USER PASSWORD 80

CHAPTER 5 DRIVER INSTALLATION..... 81
5-1 INF INSTALL INTEL 945GSE CHIPSET SYSTEM DRIVER 83
5-2 VGA INSTALL INTEL 945GSE VGA DRIVER 85
5-3 SOUND INSTALL VIA HID AUDIO CODEC DRIVER 87
5-4 HOW TO UPDATE BIOS 89
APPENDIX A: POWER CONSUMPTION TEST 90
APPENDIX B: RESOLUTION LIST 91

Copyright

This manual is copyrighted and all rights are reserved. It does not allow any non authorization in copied, photocopied, translated or reproduced to any electronic or machine readable form in whole or in part without prior written consent from the manufacturer.

In general, the manufacturer will not be liable for any direct, indirect, special, incidental or consequential damages arising from the use of inability to use the product or documentation, even if advised of the possibility of such damages.

The manufacturer keeps the rights in the subject to change the contents of this manual without prior notices in order to improve the function design, performance, quality, and reliability. The author assumes no responsibility for any errors or omissions, which may appear in this manual, nor does it make a commitment to update the information contained herein.

Trademarks

Intel is a registered trademark of Intel Corporation.
Award is a registered trademark of Award Software, Inc.
All other trademarks, products and or product's name mentioned here are for identification purposes only, and may be trademarks and/or registered trademarks of their respective companies or owners.

ⓒCopyright 2009
All Rights Reserved.
User Manual edition 0.1, OCT . 01. 2009

Warning !

1. Battery
Battery on board is consumables. We doesn't guarantee the life time of it.

2. Fanless solution with HDD
Please be aware of specification & limitation for HDD when fanless solution is implemented.

3. We will not give further notification if there is any change about the product information and the manual.

4. SATA does not support Hot SWAP

5. There would be ±20% difference of WDT at room temperature.

6. Please make sure the voltage specification meet the requirement of the equipment before plugging into the power.

7. SSD has 2 types, commercial grade and industrial grade, which provide different read/write speed, operation temperature and life cycle. Please contact sales for further information before ordering.

8. Caution ! Please notice that the heat dissipation problem could cause the MB system unstable. Please handle the heat dissipation properly when buying single MB.

9. Please avoid to approach the heat sink area and prevent being scalded when using the Fanless products.

10. If the users repair, modify or destroy any component of product unauthorized, We would not take responsibility or provide warranty.

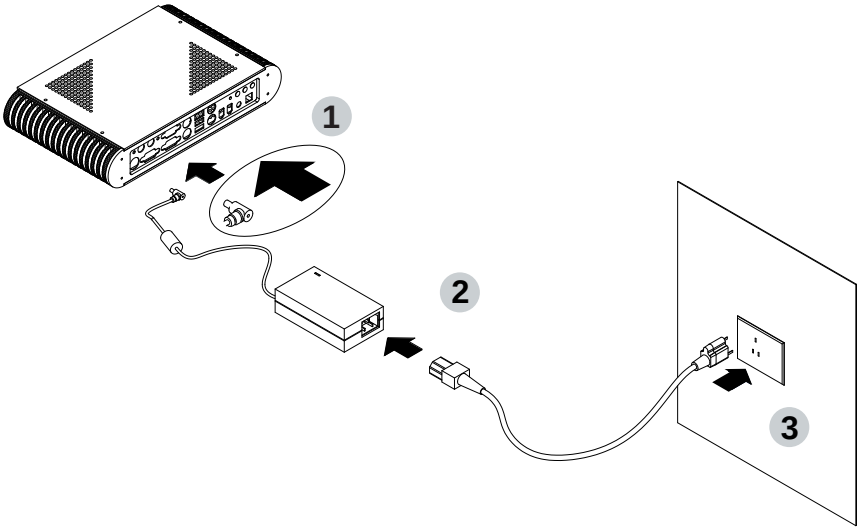
✻ Hardware Notice Guide

1. Before installing the power supply with this motherboard, please attach the 12V/DC (4 pin connector)of the adapter to motherboard first.
   After that, plug the adapter power to AC outlet.
   Always normally shut down the computer before you move the system unit or remove the power supply from the motherboard.
   Please unplug the 12V/DC (4 pin connector) of the adapter from motherboard first.
   Then unplug the adapter from the AC outlet.
   Please refer to procedure from the photo 1
2. There will be high possibility to burn out the CPU if you change/ modify any parts of the CPU cooler.
3. Please wear wrist strap and attach it to a metal part of the system unit before handling a component.
   You can also touch an object that is of ground connection or with metal surface if you don't have wrist strap.
4. Please be careful when you handle this product. Pay attention to & don't touch the sharp-pointed components at the bottom PCB .
5. Please pay attention to this: Remove or change any components form the motherboard will VOID the warranty of the motherboard you purchased .
6. Before you install/remove any components or make any jumper setting on the motherboard, please make sure to disconnect the power first.
   (Please follow the instructions as of this guide)
7. Please follow this instruction carefully when using the "POWERON after PWR-Fair" function.
   When the DC power adaptor runs out of power, unplug it from the DC current;
   when power returns plug it back in only after 5 seconds. If there is a power outage,
   unplug it from the AC current, when power returns plug it back in only after 30 seconds.
   Otherwise it will cause system locking or serious damage.

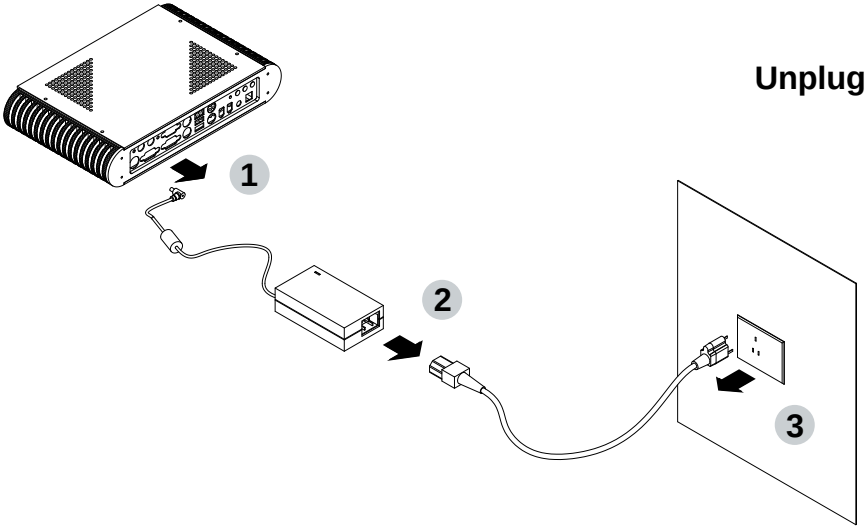
Remark 1:
Always insert/unplug the 12V/DC (4 pin connector) horizontally & directly from the motherboard.
DO NOT twist the 12V/DC (4 pin connector) gently, it is designed to fit snugly . Moreover, erratic pull / push testing with the DC Jack might cause the unpredictable damage to the component & system unit.

Photo 1

Insert



Unplug



Chapter-1

General Information

The CI270CW is an All-In-One POS / Automation control Board. The board's design combines all necessary input and output effects interfaces, which makes itself an ideal all-in-one control board for demanding POS or automation control applications. CI270CW is the perfect platform for a whole range of mobile and low-power devices.

A high-performance and power-efficient communication platform, the embedded motherboard CI270CW is especially designed for advanced embedded car PC or POS system applications where the economical use of power is in high demand.
With the sizable memory bandwidth of on board 1GB DDR2 module and the flexibility of expanding the memory to 2GB with DDR2 SODIMM, CI270CW ensures the high performance levels required of today's most popular POS/Automation control applications including Embedded Car PC, POS, ATM, Kiosk and Panel PC.

CI270CW is supported with two 10/100/1G Ethernet for seamless broadband connectivity. With Wake On LAN function and the PXE function in BIOS for Realtek LAN chipset only, this is also ideal for networking applications. The built-in LAN options are two Intel 82574L with RJ45 for 10/100M/1Gbps Ethernet or two Realtek RLT8111C 10/100/1Gbps Ethernet. CI270CW also supports as many as five RS232 and one RS422/485 to meet the needs of multi-COM connectivity.

Except Compact Flash and 40 pin IDE socket, CI270CW can be integrated with PCIe mini card and Mini PCI Card. In addition, with the eight hi-speed USB version 2.0 enhanced host controller interface, it ensures the high performance level and also the powerful and flexible expansion.
The Compact Flash reader supports IDE/ATA interface. A single Flash chip holds the system BIOS, and you can change the Flash BIOS by the Utility Update.

The CI270C All-In-One motherboard is fully compatible with industry standards, plus technical enhancements, and thousands of software applications developed for IBM PC/AT compatible computers. The control logic provides high-speed performance for the most advanced multi user and multitasking applications available today.

1-1 Major Feature

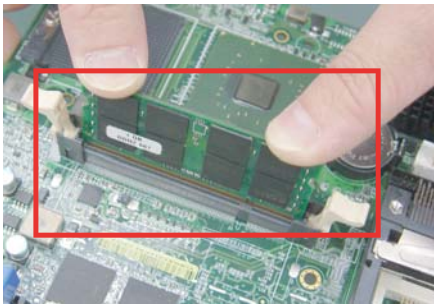
1. Intel Atom N270 CPU (FSB 533 Mhz)
2. Intel 945GSE Chipset on board, Graphic Chip Integrated
3. On board DDR2 module 1GB and support DDR2 SODIMM up to 2GB (option)
4. On board SSD 1/2/4/8 Gbytes (option)
5. Support 2 x 10 / 100 / 1000 Mbps LAN on Board (Realtek or Intel LAN Chip)
6. Support CRT resolutions up to SXGA+
7. 18 bits/ 36 bits LVDS Interface on Board. (option)
8. Support DVI.
9. Support 1 x Compact Flash Card Socket and 40 pin IDE socket on Board
10. Support 2 x SATA ports.
11. Support Mini PCI Socket on board and 1 x PCIe mini card for USB and PCIe interface
    Support one PCIe x 1 interface.
12. Optional Wide range power supply
13. PCB Dimensions: 200 x 150 mm
14. Support dimming control function

1-2 Specification

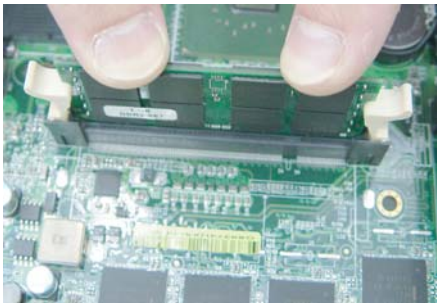
1. **CPU**: Intel Atom N270 CPU (FSB 533 Mhz)
2. **ChipSet**: Intel 945GSE and Intel ICH7M (82801GBM)
3. **Memory**: On board DDR2 module 1 GB or support DDR2 SODIMM up to 2GB
4. **VGA**: Internal Graphics Memory with dynamic video memory technology (DVMT3.0)
5. **I/O Chip**: ITE IT8712F and F81216AD IO chipset
6. **SATA**: Two SATA ports with independent DMA operation supported
7. **NAND flash memory (option)**: Support Compact Flash card type II for ATA interface
   On board SSD 1/2/4/8 GBytes
8. **LAN**: 2 x Reltek RLT8111C 10/100/1000 Mbps or Intel 82574L LAN chip for PCIe x 1 interface
9. **Storage Device**: 1 x 50 pins Compact Flash Socket
   Ultra ATA 100/66/33, 1 x 40 pin 2.54 mm
10. **Serial Port**: 5 x RS232 + 1 x RS422/485 or 5 x RS485 + 1 x RS232 (optional)
11. **USB**: 8 x USB 2.0 (4 external+4 internal ports)
12. **DVI**: Chrontel DVI transmitter up to 165M pixels/second
13. **Audio**: Intel HD audio specification Rev. 1.0 Compliant
14. **LVDS (option)**: support 18bits/ 36 bits LVDS interface resolution up to SXGA+
15. **WDT/DIO**: Hardware watch dog timer support, 0~255 sec programmable
    Hardware digital Input & Output, 8xDI / 8xDO
16. **Touch screen (option)**: C8051F321 USB/COM interface touch screen controller,
    support 4-, 5-, 8- wire Analog resistive touch screen
17. **Audio Amplifier (option)**: 6-W/CH into an 8-Ω Load from a 12-V Supply.
    Up to 92% Efficient, Class-D operation (optional)
18. **Expand interface**: 1 x Mini PCI socket for PCI Rev. 2.2 interface &
    1 x PCIe mini card support USB and PCIe interface
    1x PCIe x 1 interface
19. **BIOS**: Award BIOS version V6.1
20. **Dimensions**: 200 x 150 mm
21. **Power (option)**: Wide range DC-IN from +9V to +32V or fix to +12V DC input convert
    into power +12VAD to +5V/±5% and +3.3V/±5%, and +12V/±5%
22. **Power Consumption**: Please refer to page 90

1-3 Vertical SODIMM assembly guide

1. Install the memory into SODIMM.



2. Press down firmly to ensure the memory is locked.



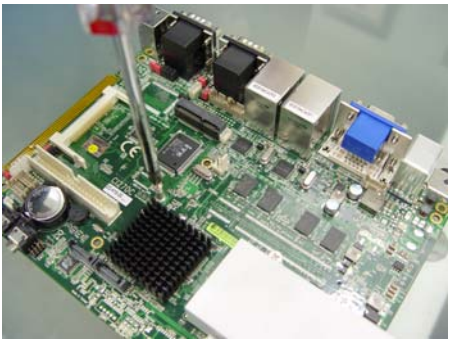
Uninstall

1. Pull open both sides of the memory slot.

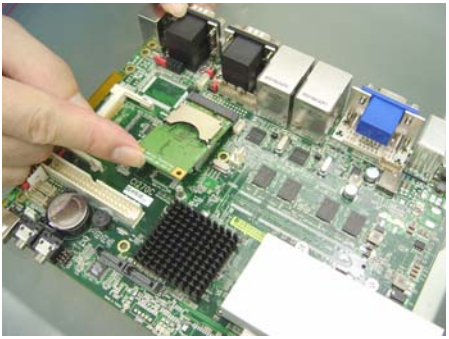
2. Take out the memory.

1-4 Directions for installing the Mini Card

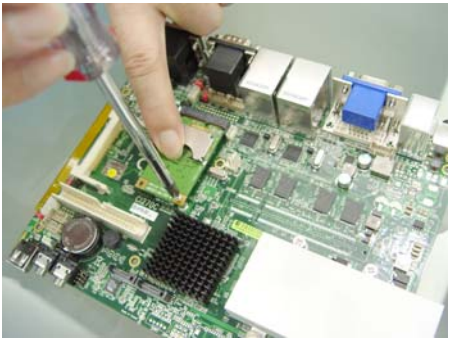
1. Unscrew the screw on the board



2. Plug in the Mini Card in a 45° angle

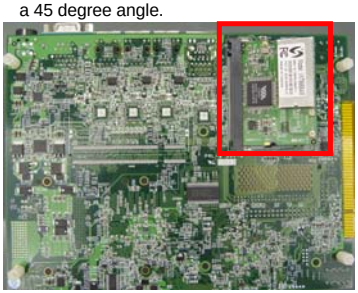


3. Gently push down the Mini Card and screw the screw back.



1-5 Installing the Mini PCI card

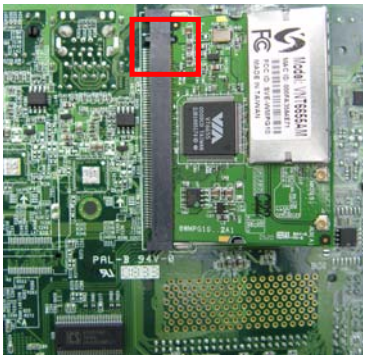
1.Align the Mini PCI card with the connector at a 45 degree angle.



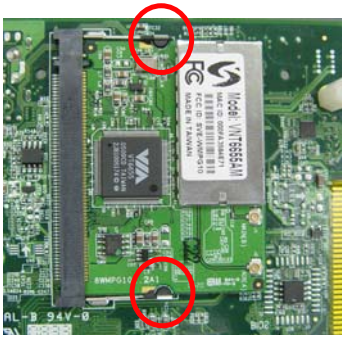
2. Press the Mini PCI into the connector until you hear a click.

Notices:

1.The connectors are designed to ensure the correct insertion. If you feel resistance, check the connectors & golden finger direction, and realign the card.



2. Make sure the retaining clips (on two sides of the slot) lock onto the notches of the card firmly



1-5-1.1 Removing the Mini PCI card

1. Release the Mini PCI card by pulling outward the two retaining clips and the card pops up slightly.

2. Lift the mini PCI card out of its connector carefully.

1-6 Packing List

① MotherBoard
② DC 12V Power Adapter(4P)
③ ATA 66 HDD Cable(40P)
④ SATA HDD Cable(7P)
⑤ Power Cable
⑥ Utility CD Disk
⑦ User's Manual

*The packing list above is for the users who purchase single motherboard. The users who purchase the board with chassis may refer to the packing list in the Assembly Guide.

Please contact with your dealer if any of these items is missing or damaged on delivery. And please keep all parts of the delivery package with packing materials in case if you need to deliver or store the product in the future.

Chapter-2

Hardware Installation

This chapter provides the information how to install the hardware of CI270CW. Please follow section 1-6, 2-1 and 2-2 to check the delivery package and unpack carefully. Please follow the jumper setting procedure.

2-1 Unpacking Precaution

The CI270CW board has been well packed with an anti-static bag to protect its sensitive components and circuitry from damage due to static electric discharge.

NOTE!

1. Do not touch the board or any other sensitive components without all necessary anti-static protection.
2. Please pay attention to the voltage limitation of DC-IN12 V ± 5 %.
   Overuse of DC-IN voltage limitation or change to another power adapter (not provided with this system) will VOID warranty.

You should follow these steps to protect the board from the static electric discharge whenever you handle the board:

1. Ground yourself by a grounded wrist strap at all times when you handle the CI270CW.
   Well secure the ALLIGATOR clip of the strap to the end of the shielded wire lead from a grounded object. Please put on and connect the strap before handling the CI270CW for harmlessly discharge any static electricity through the strap.

2. Please use anti-static pad to put any components, parts, or tools on the pad whenever you work on them outside the computer. You may also use the anti-static bag instead of the pad. Please ask your local supplier for necessary parts on anti-static requirement.

3. Do not plug any connector or set any jumper when the power is on.

2-2 Unpacking checkup

First of all, please follow all necessary steps of section 2-1 to protect CI270CW from electricity discharge. With reference to section 1-6, please check the delivery package again with following steps:

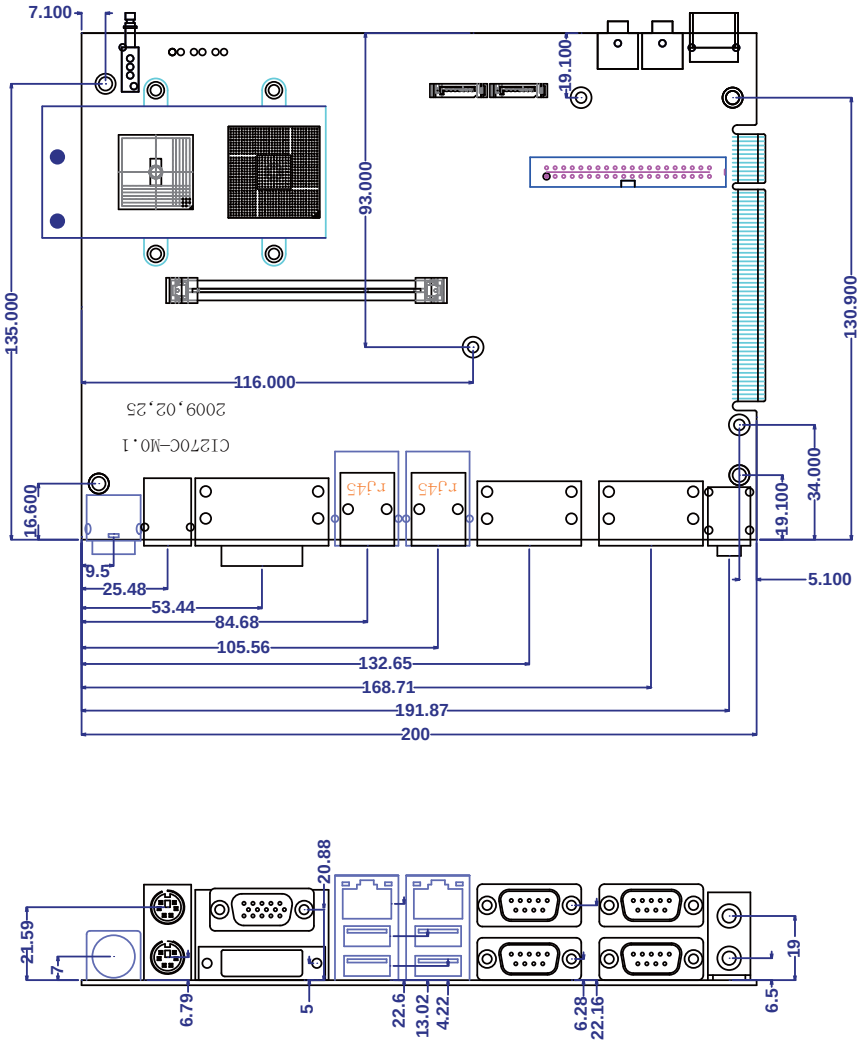
1. Unpack the CI270CW board and keep all packing material, manual and driver disc etc, do not dispose !

2. Is there any components lose or drops from the board? DO NOT CONTINUE TO INSTALL THIS BOARD! CONTACT THE DEALER YOU PURCHASED THIS BOARD FROM, IMMEDIATELY.
3. Is there any visible damage on the board? DO NOT CONTINUE TO INSTALL THIS BOARD!CONTACT THE DEALER YOU PURCHASED THIS BOARD FROM, IMMEDIATELY.
4. Check your optional parts (i.e. DDR, CF etc.), all necessary jumpers setting to jumper pin-set, and CMOS setup correctly.
   Please also refer to all information of jumper settings in this manual.

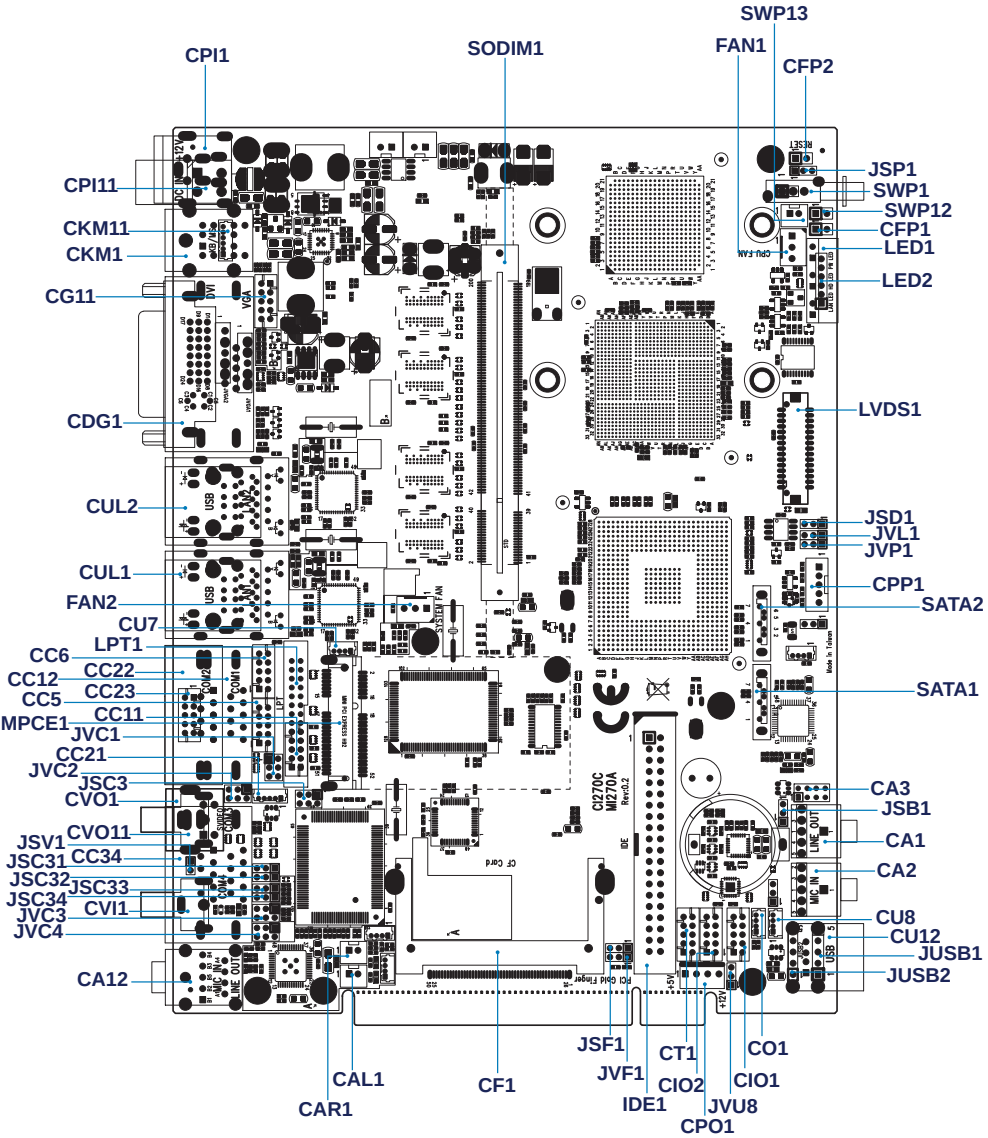
5. Check your external devices (i.e. Add-On-Card, Driver Type etc.) for complete add-in or connection and CMOS setup correctly.
   Please also refer to all information of connector connection in this manual.

6. Please keep all necessary manual and driver disc in a good condition for future re-installation if you change your Operating System.

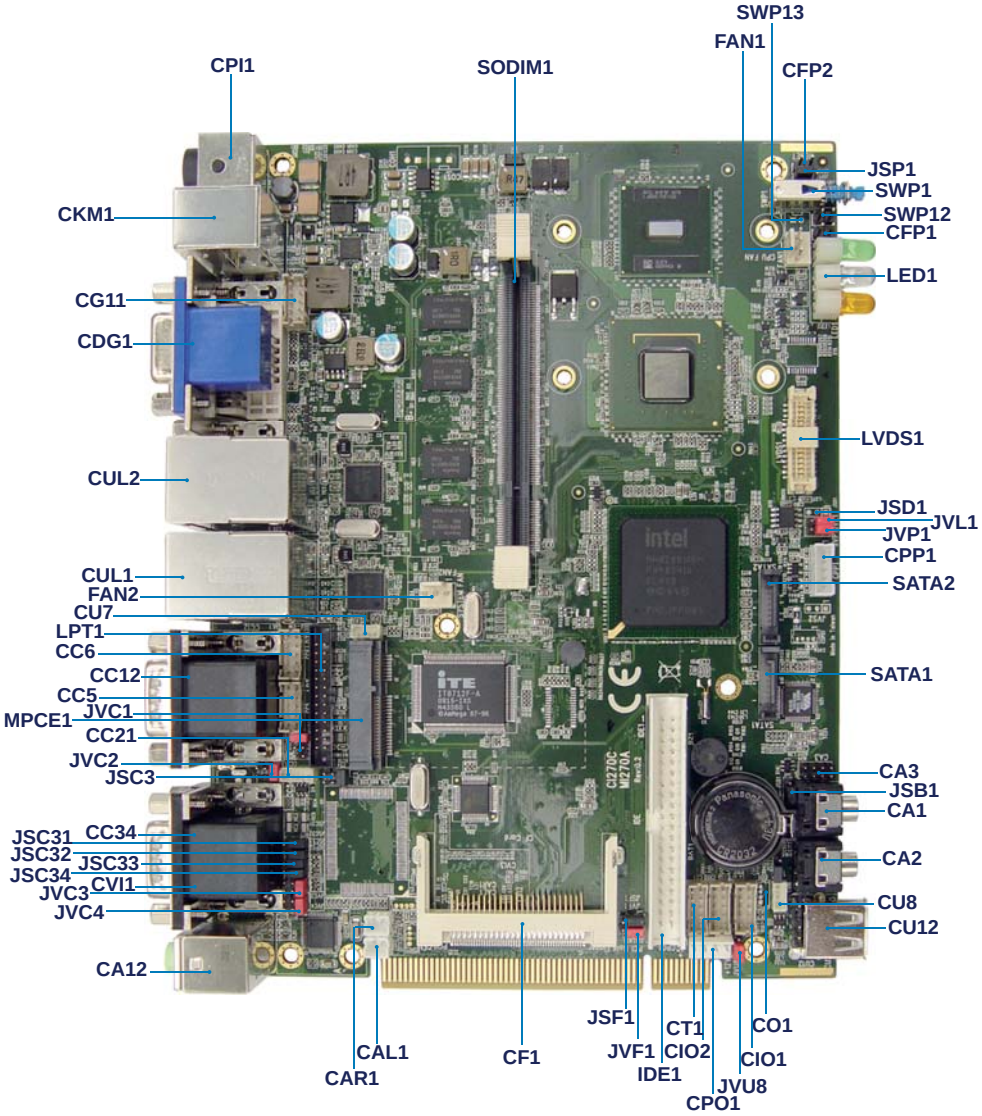
2-3 Dimension 200 x 150 mm



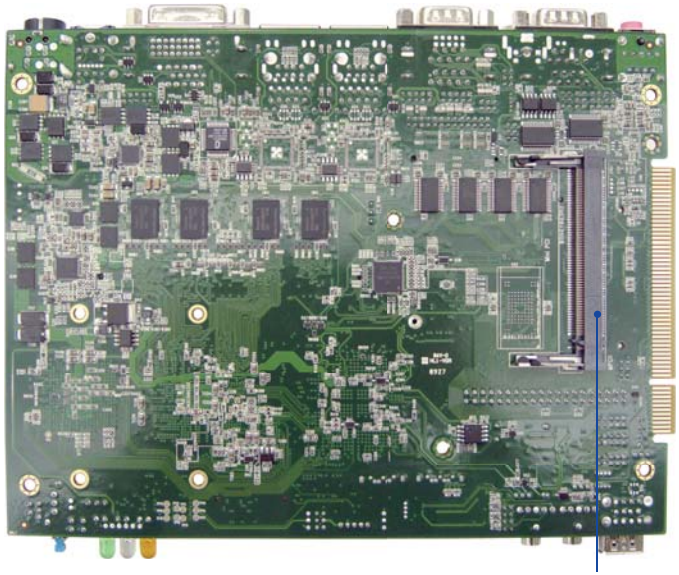
2-4 Layout - CI270CW



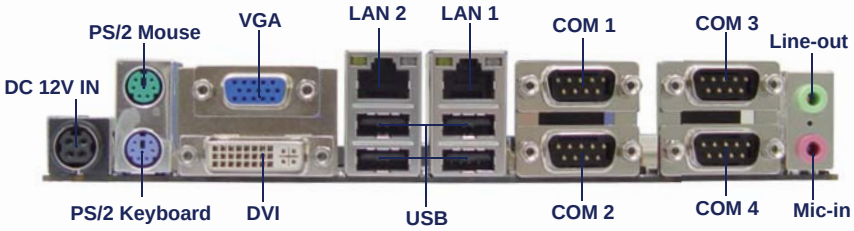
2-5 Diagram - CI270CW



2-5-1 Bottom Side Diagram- CI270CW



• **Back Panel-CI270CW**



• **Front Panel-CI270CW**

2-6 Install Memory

This motherboard provides one 200-pin Small Outline Dual In-line Memory Module (SODIMM) socket for memory expansion available from minimum memory size of 256MB to maximum memory size of 2GB DDR2 SDRAM.
DDR2 clock supports: DDR2 533, DDR2 667

Valid Memory Configurations

DIMM1	System Accept or Not	Total Memory
		Min. ~ Max.
DS/SS	Accept	256MB~2GB

DS: Double Sided DIMM **SS: Single Sided DIMM**

NOTE!
The detected memory size is less than actual installed memory size since some memory has been allocated for system use.
That's how PC works with system memory.

NOTE!

When you install DIMM module fully into the DIMM socket, the eject tab should be locked into the DIMM module very firmly and fit into its indention on both sides.

Please refer to page7 for installation of memory module.

WARNING!

Once you hear " Beep Beep Beep" sounds after turning on the power , please check if the DRAM is installed properly or not.

2-7 List of Jumpers

1. JSB1: CMOS clear select
2. JSC3, JSC31 / 32 / 33 / 34: COM3 RS232/422/RS485 select
3. JSP1: ATX / AT Power type select
4. JSV1: S Video / HDTV select
5. JSD1: DPC Duty select
6. JSF1: CF card master and slave select
7. JVF1: CF card Power +5V/+3.3V select
8. JVC1: COM1 voltage select
9. JVC2: COM2 voltage select
10. JVC3: COM3 voltage select
11. JVC4: COM4 voltage select
12. JVL1: LCD Panel power select
13. JVP1: Panel Inverter power select
14. JVU8: USB8 voltage select

2-8 Jumper Setting Description

A jumper is ON as a closed circuit with a plastic cap covering two pins. A jumper is OFF as an open circuit without the plastic cap. Some jumpers have three pins, labeled 1, 2, and 3. You could connect either pin 1 and 2 or 2 and 3.
The below figure 2.2 shows the examples of different jumper settings in this manual.

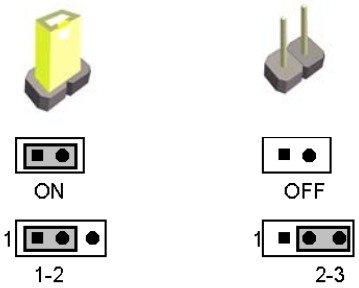


Figure 2.2

All jumpers already have its default setting with the plastic cap inserted as ON, or without the plastic cap as OFF. The default setting may be referred in this manual with a " * " symbol .

2-9 JSB1: CMOS Data Set

A battery must be used to retain the motherboard configuration in CMOS RAM. Close pin 1and pin 2 of JSB1 to store the CMOS data.

To clear the CMOS, follow the procedures below:
1. Turn off the system and unplug the AC power
2. Remove DC 12V power cable from DC 12V power connector
3. Locate JSB1 and close pin 2-3 for a few seconds
4. Return to its normal setting by shorting pin 1-2
5. Connect DC 12V power cable back to DC 12V power connector

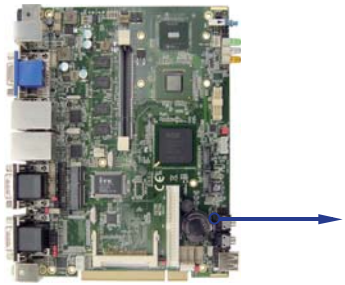
Note: Do not clear CMOS unless

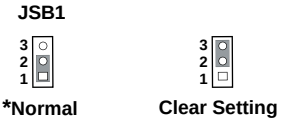
1. Troubleshooting

2. Forget password

3. You fail over-clocking system

JSB1	Description
*1-2	*Normal Set
2-3	CMOS Data clear



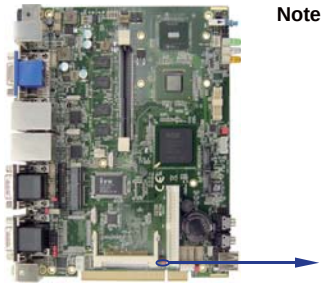


2-10 JVF1: CF Card Power Voltage select

If you use CF card and HDD together, we suggest you use the jumper setup for +5V.

***We strongly suggest the users: DO NOT use the CF Card & HDD at the same time.**

JVF1	Description
*1-2	*For CF CARD power voltage select +5V
2-3	For CF CARD power voltage select +3.3V



Note: Please be cautious about voltage setting.

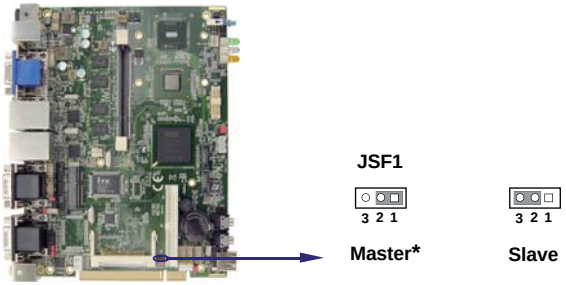
* We use ☐ to refer to as pin1

2-11 JSF1: CF Card Master and Slave select

If you use CF card and SSD together, please set CF as Slave and SSD as Master.

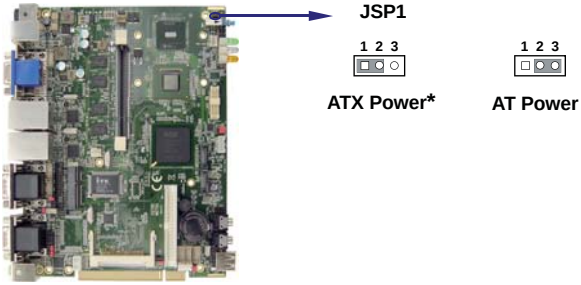
***We strongly suggest the users: DO NOT use the SSD & CF Card at the same time.**

JSF1	Description
*1-2	*For CF CARD Master
2-3	For CF CARD Slave



2-12 JSP1: AT / ATX power select

JSP1	Description
*1-2	*ATX Power mode
2-3	AT Power mode

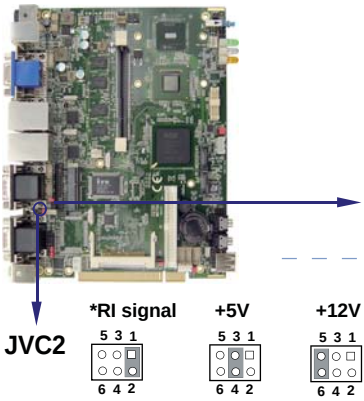


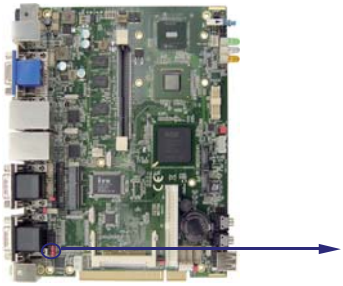
2-13 COM port pin9 select RI signal or Voltage source

JVC1: COM1 PIN9 select JVC2: COM2 PIN9 select
JVC3: COM3 PIN9 select JVC4: COM4 PIN9 select

JVC1 / 2 / 3 / 4	Description
*1-2	*COM port pin9 use RI signal
3-4	COM port pin9 use +5V voltage
5-6	COM port pin9 use +12V voltage

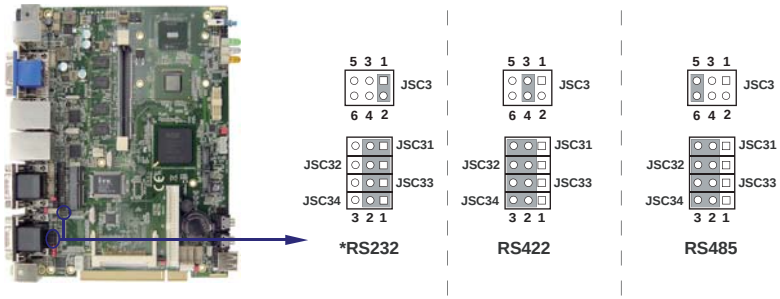
Note: 1. **Please be cautious about voltage setting.**
2. If want to use +5V/+12V need check system power design spec.





2-14 JSC3,JSC31/32/33/34: COM3 RS232/422/RS485 select

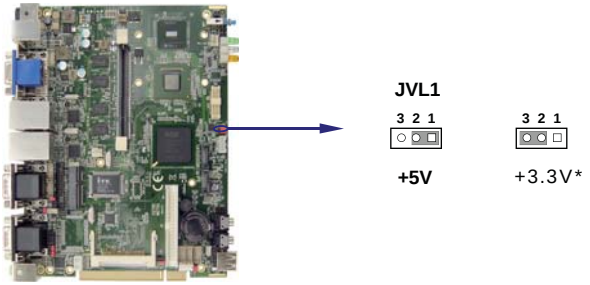
JSC3	JSC31	JSC32	JSC33	JSC34	Description
*1-2	*1-2	*1-2	*1-2	*1-2	RS232*
3-4	2-3	2-3	2-3	2-3	RS422
5-6	2-3	2-3	2-3	2-3	RS485



2-15 JVL1: LVD panel power select

JVL1	Description
1-2	+5V
*2-3	*+3.3V

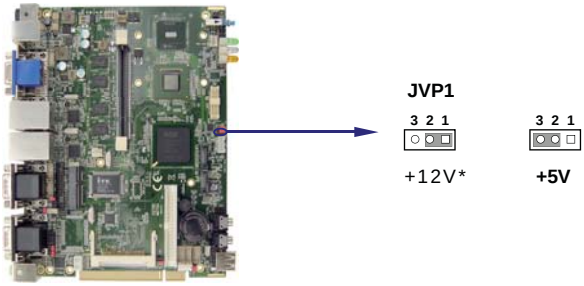
Note: Please be cautious about voltage setting.



2-16 JVP1: LVDS Panel Inverter power select

JVP1	Description
*1-2	*+12V
2-3	+5V

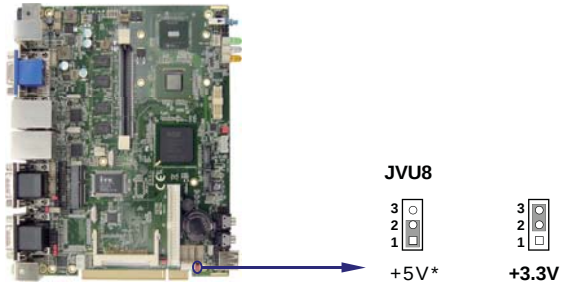
Note: Please be cautious about voltage setting.



2-17 JVU8: USB Port 8 Voltage select

JVU8	Description
*1-2	*+5V
2-3	+3.3V

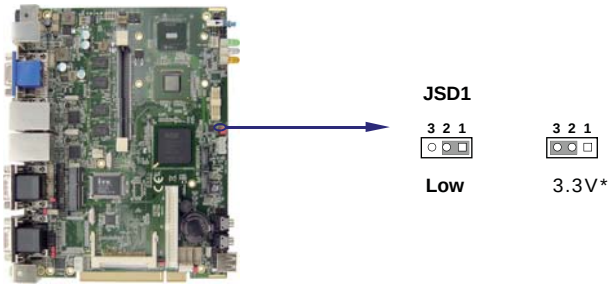
Note: Please be cautious about voltage setting.



2-18 JSD1: DPC Duty set

JSD1	Description
1-2	Low 0% (Low level)
*2-3	*Hi 100% (3.3V level)

Note: Please be cautious about voltage setting.



Chapter-3

Connection

This chapter provides all necessary information of the peripheral's connections, switches and indicators. Always power off the board before you install the peripherals.

3-1 List of Connectors

CA1: Line-out phone jack

CA2: Mic-in phone jack

CA12: Mic-in (down side) / Line out (up side) phone jack

CA3: Line-out/Line-in/Mic-in 2x4 pin (2.0mm) Header

CAR1: Amplifier Line-out Right channel connector

CAL1: Amplifier Line-out Left channel connector

CC12: COM1(up side)/COM2(down side) DB9p connector

CC34: COM3(up side)/COM4(down side) DB9p connector

CC11: COM1 2x5pin(2.0mm) Wafer (Share to LPT1) (Option)

CC21: COM2 5pin (1.25mm) Wafer (Share to CC12 COM2)

CC22: COM2 DB9p connector (Share to CC12 COM2) (Option)

CC23: COM2 2x5pin(2.0mm) Wafer (Share to CC12 COM2) (Option)

CC5: COM5 2x5pin(2.0mm) Wafer

CC6: COM6 2x5pin(2.0mm) Wafer

CDG1: DVI-D / VGA DB15p connector

CG11: VGA port 2x5pin (2.0mm) Wafer connector

IDE1: IDE 40 pin (2.54mm) Connector

CF1: CF socket 50pin

CIO1,CIO2: Two DIO 2x5 pin (2.0mm) Wafer

CKM1: PS2 Keyboard / Mouse connector

CKM11: KB/MS port 1x6 pin (1.25mm) Wafer connector (Share to CKM1) (Option)

CO1: I2C bus connector 1x4 pin (1.25mm) Wafer (Option)

CPI1: DC 12V-IN DIN external Connector (4pin mini din connector)

CPI11: DC 12V-IN Internal Connector (4pin connector) (Option)

CPO1: DC +5/+12V output connector (2.5mm) Wafer

LVDS1: LVDS 18 /36Bits 2x15 pin (1.25mm) connector

List of Connectors

CPP1: Panel inverter power connector 1x5 pin (2.0mm) Wafe

CT1: Touch screen device 2x5 pin (2.0mm) Wafer

CU12: USB 1 ports (Down side Type A jack)

CU2: USB 0 port 4pin (2.54mm) Header (Share with CU12)

CU7 : USB 7 port 4pin(1.25mm) Wafer (Share with PCIe Mini card soket)

CU8 : USB 8 port 4pin(1.25mm) Wafer (Share with Touch)

CUL1: USB port 3/4 and LAN1 RJ45 Connector

CUL2: USB port 5/6 and LAN2 RJ45 Connector

FAN1: CPU FAN connector 1x3 pin (2.54mm) Wafer

FAN2: System FAN connector 1x3 pin (2.54mm) Wafer

LPT1: LPT port 2x13pin(2.0mm) Wafer Header (Option)

SATA1: SATA connector 7pin

SATA2: SATA connector 7pin

MPCE1: PCIe Mini card socket

MPCI1: Mini PCI socket

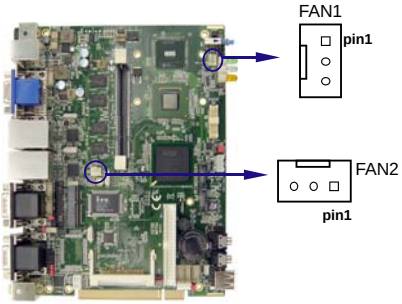
SODIM1: DDRII RAM Socket

CFP1: Power LED 1x2 pin (2.54mm) Header.

CFP2: Power reset 1x2 pin (2.54mm) Header.

3-2 FAN Connector

CI270CW provides one CPU fan connector and one system fan connector.
FAN1: CPU FAN connector (3pin 2.5mm wafer)
FAN2: System FAN connector (3pin 2.5mm wafer)



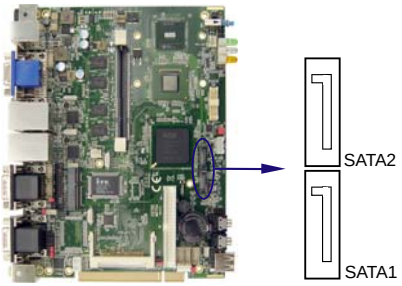
PIN NO.	Description
1	GND
2	+12V
3	FAN speed detect

Note: DC in +12V by switch to FAN power +12V, so DC in need stable +12V input

3-3 SATA Interface

- **SATA1 / SATA2 : Two SATA connector (7pin wafer)**

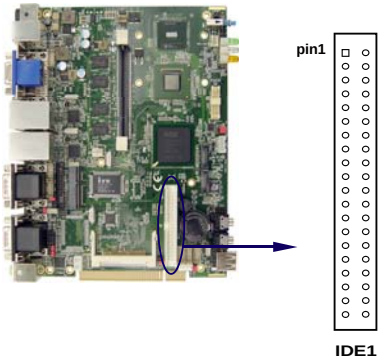
PIN NO.	Description
1	GND
2	DATA TX+
3	DATA TX-
4	GND
5	DATA RX-
6	DATA RX+
7	GND



3-4 IDE Connectors

IDE1 40 pin (2.54mm box Header) Connector

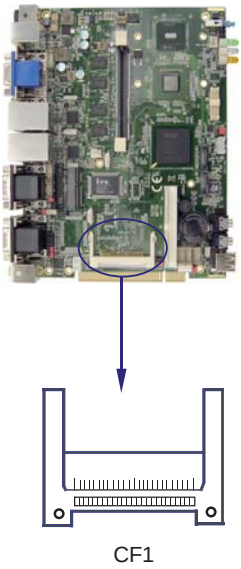
PIN NO.	Description	PIN NO.	Description
1	RESET#	2	GND
3	DATA7	4	DATA8
5	DATA6	6	DATA9
7	DATA5	8	DATA10
9	DATA4	10	DATA11
11	DATA3	12	DATA12
13	DATA2	14	DATA13
15	DATA1	16	DATA14
17	DATA0	18	DATA15
19	GND	20	+5V
21	DREQ	22	GND
23	IOW#	24	GND
25	IOR#	26	GND
27	IORDY	28	PULL DOWN
29	DACK#	30	GND
31	IRQ15	32	NC
33	SA 1	34	ATA 33/66/100 CABLE SELECT
35	SA 0	36	SA 2
37	HD CS0#	38	HD CS1#
39	HD LED	40	GROUND



Note!
PIN 20 connector +5V of IDE 1 could provide the power of DOM.

3-5 Compact - Flash Memory Socket

CI270CW configures CompactFlash Storage Card in IDE mode.
It will use IDE channel when CompactFlash card is plugged in.
This socket supports CF Card Type I/II socket spec.
CF Socket 50pin----CF1



CF1

CF1: CF Socket For True IDE Mode (50pin CF Socket)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	26	GND(-CD1)
2	DATA3	27	DATA11
3	DATA4	28	DATA12
4	DATA5	29	DATA13
5	DATA6	30	DATA14
6	DATA7	31	DATA15
7	-CS0	32	-CS1
8	GND(A10)	33	GND(-VS1)
9	GND(-ATA_SEL)	34	-IOR
10	GND(A9)	35	-IOW
11	GND(A8)	36	-WE(PH)
12	GND(A7)	37	INTR
13	+5V	38	+5V
14	GND (A6)	39	-CSEL
15	GND (A5)	40	NC(-VS2)
16	GND (A4)	41	RESET
17	GND (A3)	42	IORDY
18	SDA2	43	DMAREG(-INPACK)
19	SDA1	44	DMAACK[-REG(PH)]
20	SDA0	45	-DASP
21	DATA0	46	-PDIAG
22	DATA1	47	DATA8
23	DATA2	48	DATA9
24	NC(-IOCS16)	49	DATA10
25	GND(-CD2)	50	GND

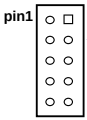
Note: Refer JSF1 / JVF1 Jumper set (CF socket share to IDE)

3-6 VGA Connector

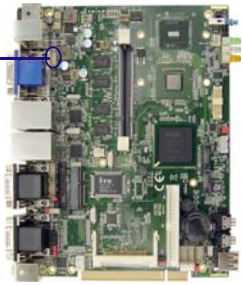
- **CG11: VGA 2 x 5pin 2.0mm wafer connector**

PIN NO.	Description	PIN NO.	Description
1	BULE	2	GND
3	GND	4	DDC CLOCK
5	GREEN	6	V-SYNC
7	GND	8	H-SYNC
9	RED	10	DDC DATA

*Note : VGA signal CG11 share with CG1



CG11



3-7 DVI-D Connector

- **CDG1 : DVI 12bit connector Down side (DB Connector)**

PIN NO.	Description	PIN NO.	Description	PIN NO.	Description
1	Data 2 -	9	Data 1 -	17	Data 0 -
2	Data 2 +	10	Data 1+	18	Data 0 +
3	GND	11	GND	19	GND
4	NC	12	NC	20	NC
5	NC	13	NC	21	NC
6	I2C-CLK	14	+5V	22	GND
7	I2C-DATA	15	GND	23	CLK+
8	NC	16	DVI-DETECT	24	CLK-

- **CDG1: VGA DB15 Connector Up side (D SUB 15PIN)**

PIN NO.	Description	PIN NO.	Description	PIN NO.	Description
1	RED	6	GND	11	NC
2	GREEN	7	GND	12	DDC DATA
3	BULE	8	GND	13	H-SYNC
4	NC	9	NC	14	Y-SYNC
5	GND	10	GND	15	DDC CLOCK

3-8 Keyboard and Mouse Connector

- **CKM1: PS2 Keyboard Din connector(down side)**

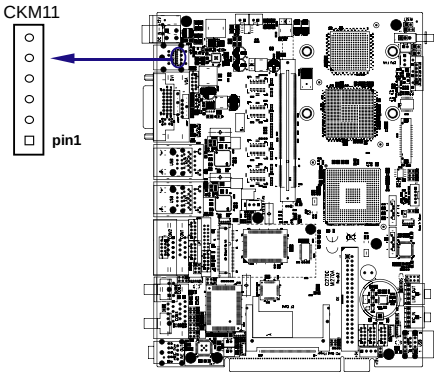
PIN NO.	Description
1	KB DATA
2	MS DATA
3	GND
4	+5V
5	KB CLOCK
6	MS CLOCK

- **CKM1: PS2 Mouse Din Connector (up side)**

PIN NO.	Description
1	MS DATA
2	NC
3	GND
4	+5V
5	MS CLOCK
6	NC

- **CKM11: 6PIN(1.25mm Wafer connector) Internal Keyboard / Mouse Connector**

PIN NO.	Description
1	+5V
2	KB DATA
3	KB CLOCK
4	GND
5	MS DATA
6	MS CLOCK



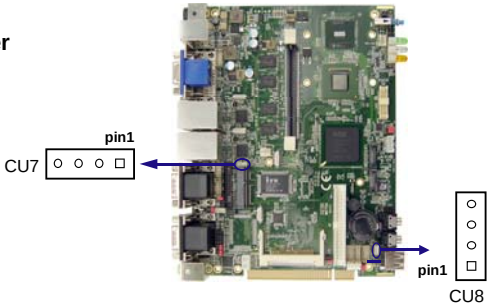
3-9 USB Port

- **CU12: USB 0/1 ports (Down side Type A jack)**

PIN NO.	Description
1	+5V
2	USB DATA 0 / 1-
3	USB DATA 0 / 1+
4	GND

- **CU2: USB0 port 4pin (2.54mm) Header (Share with CU12)**

PIN NO.	Description
1	+5V
2	USB DATA 0 -
3	USB DATA 0 +
4	GND



- **CU7: USB7 port (4pin 1.25mm Wafer)**

PIN NO.	Description
1	+5V
2	USB DATA -
3	USB DATA +
4	GND

Note: CU7 USB7 share with PCIe Mini card

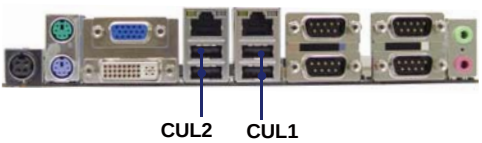
- **CU8: USB8 port (4pin 1.25mm Wafer)**

PIN NO.	Description
1	+5V or +3.3V
2	USB DATA -
3	USB DATA +
4	GND

Note : 1. PIN 1 Voltage select from JVU8
2. CU8 USB8 share with on board Touch controller

- **CUL1/CUL2 (Down side): USB ports 2/3/4/5 Type A jack**

PIN NO.	Description
1	+5V
2	USB DATA / 2 / 3 / 4 / 5-
3	USB DATA / 2 / 3 / 4 / 5+
4	GND

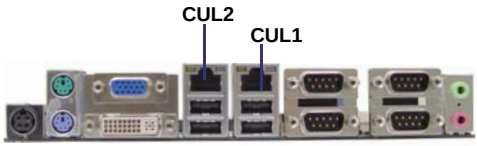


3-10 LAN connector

The Fast Ethernet controller provides 32-bit performance, PCIe bus master capability, and full compliance with IEEE 802.3 10/100/1000 Based-T specification.
For 10/100/1000 Base-T operation, please connect the network connection by plugging one end of the cable into the RJ-45 jack of the CUL1/CUL2 Connector.
Besides 10/100/1000 Base-T, CI270CW can provide Intel Giga LAN solution through CUL1/CUL2 once equipped with Intel 82574L chipset.

- **CUL1 / CUL2 (Up side) :LAN Giga/100Mb Jack**

PIN NO.	Description	PIN NO.	Description
1	TD0-/TX+	5	TD2-/NC
2	TD0+/TX-	6	TD2+/RX-
3	TD1-/RX+	7	TD3-/NC
4	TD1+/NC	8	TD3+/NC



LAN LED

Intel 82574L
LAN LED

Speed	10 Mbps			100 Mbps			1000 Mbps		
Indicate	Back Side		Fornt Side	Back Side		Fornt Side	Back Side		Fornt Side
	Link Led	ACT Led	ACT Led	Link Led	ACT Led	ACT Led	Link Led	ACT Led	ACT Led
LAN light	Orange	Orange	Orange	Green	Orange	Orange	Red	Orange	Orange

Realtek RTL8111C
LAN LED

Speed	10 Mbps			100 Mbps			1000 Mbps		
Indicate	Back Side		Fornt Side	Back Side		Fornt Side	Back Side		Fornt Side
	Link Led	ACT Led	ACT Led	Link Led	ACT Led	ACT Led	Link Led	ACT Led	ACT Led
LAN light	Orange		Orange	Green		Orange	Red		Orange

3-11 COM Port Connector

COM3 default support RS232/RS422/RS485 mode
COM1/2/4/5/6 default support RS232 mode

RS232 Mode conector (D-SUB 9pin)

- CC12: COM1 (up side) / COM2 (down side) port Connector
- CC34: COM3 (up side) / COM4 (down side) port Connector

PIN NO.	Description	PIN NO.	Description
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI / VOLTAGE
5	GND		

Note: 1. Pin 9 RI and Voltage setting only for COM 1/2/3/4 ports
JVC1 for COM1, JVC2 for COM2, JVC3 for COM3, JVC4 for COM4
2. COM3 default support RS232/RS422/RS485

- **CC12 / CC34: RS485 Mode conector (D-SUB 9pin)**

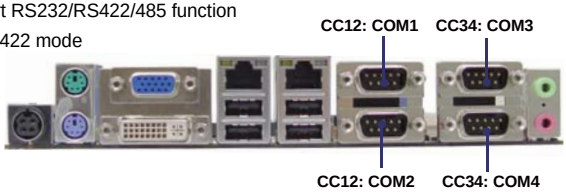
PIN NO.	Description	PIN NO.	Description
1	RS485 TX+	6	NC
2	RS485 TX-	7	NC
3	NC	8	NC
4	NC	9	NC
5	GND		

Note : This type by OEM BOM select

- CC34: COM3 (up side) for RS422 /RS485 (D-SUB 9pin)

PIN NO.	Description	PIN NO.	Description
1	TXD-	6	NC
2	TXD+	7	NC
3	RXD+	8	NC
4	RXD-	9	RI / VOLTAGE
5	GND		

Note: 1. CC34 (COM3) default support RS232/RS422/485 function
2. BIOS need setting to RS485/422 mode



- **RS232 ports (2x5pin 2.0mm Wafer)**

CC11: COM1 CC23: COM2
CC5: COM5 CC6 : COM6

PIN NO.	Description	PIN NO.	Description
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NC

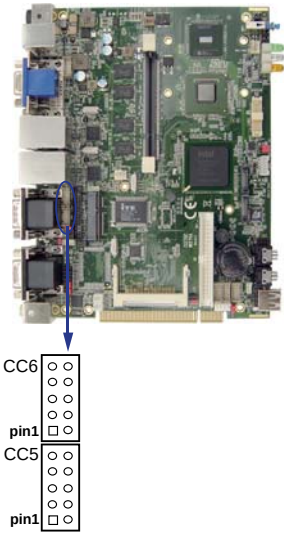
Note: 1. CC11 share with LPT1 connector for OEM
2. CC23 share with CC12 connector for OEM

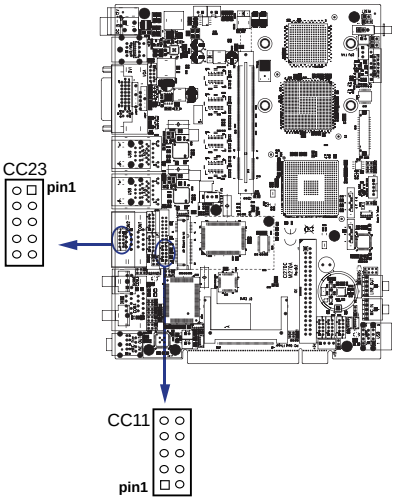
- **RS485 ports (2x5pin 2.0mm Wafer)**

CC5: COM5 CC6 : COM6

PIN NO.	Description	PIN NO.	Description
1	RS485 TX-	2	RS485 TX+
3	NC	4	NC
5	GND	6	NC
7	NC	8	NC
9	NC	10	NC

Note : This type by OEM BOM select





- **CC21: COM2 RS232 port (5pin 1.25mm Wafer)**

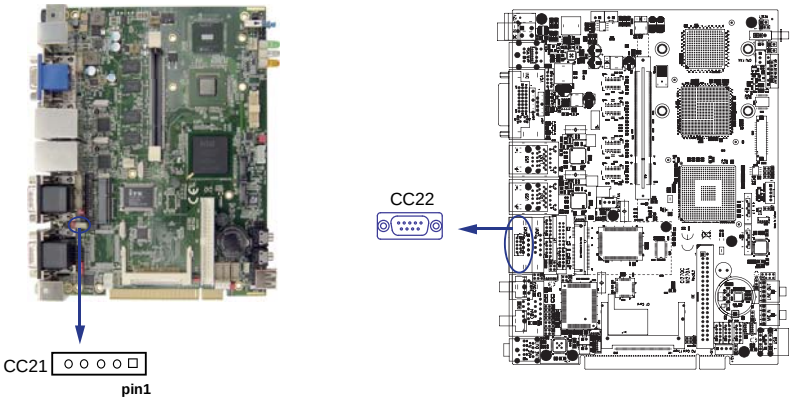
PIN NO.	1	2	3	4	5
Description	+5V	GND	RTS	TX	RX

Note: 1. CC21(COM2) share with CC12
2. All signal are RS232 level .

- CC22: COM2 RS232 Mode single conector (D-SUB 9pin)

PIN NO.	Description	PIN NO.	Description
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI / VOLTAGE
5	GND		

Note: 1. CC22 share with CC12 COM2 connector for OEM



3-12 Audio Port Connector

The CI270CW has an on-board AC'97 3D sound interface. There are the connectors of LINE OUT, MIC-IN connectors.
The MIC-IN Jack header are for audio sound input. The LINE-OUT connector is a 4-pin Jack for audio sound output.

- **CA1 : Line out connector (3.5mm Phone jack)**

PIN NO.	1	2	3	4	5
Description	GND	FRONT OUT-L	NC	NC	FRONT OUT-R

- **CA2: MIC IN (3.5mm Phone jack)**

PIN NO.	1	2	3	4	5
Description	GND	MIC-PW	GND	NC	MIC-IN

- **CA12: Up side Line out (3.5mm phone jack)**

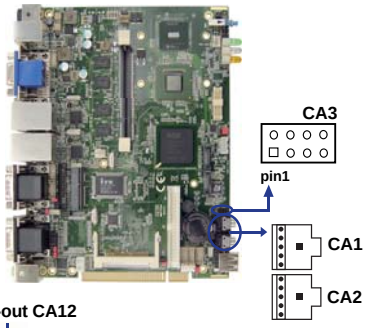
PIN NO.	1	2	3	4	5
Description	GND	Line OUT-L	NC	NC	Line OUT_R

- **CA12: Down side Mic in (3.5mm phone jack)**

PIN NO.	1	2	3	4	5
Description	GND	Mic IN-L	NC	NC	Mic IN_R

- **CA3: Line-out/Line-in/Mic-in 2x4 pin (2.0mm) Header**

PIN NO.	Description	PIN NO.	Description
1	Line-out-R	2	Line-out-L
3	GND	4	GMD
5	Line-in-R	6	Line-in-L
7	MIC-IN	8	MIC-IN



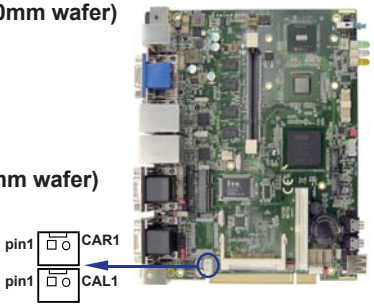
3-13 Audio Amplifier class D Two channel 6W/ch

- **CAR1: Audio Amplifier Line Out Right (2pin 2.0mm wafer)**

PIN NO.	Description
1	LINE-OUT_R+
2	LINE-OUT_R-

- **CAL1: Audio Amplifier Line Out Left (2pin 2.0mm wafer)**

PIN NO.	Description
1	LINE-OUT_L+
2	LINE-OUT_L-

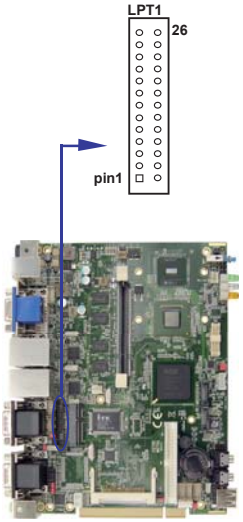


Note : Audio Amplifier is option function

3-14 LPT Port

- **LPT1: port 2x13pin(2.0mm) Wafer Header**

PIN NO.	Description	PIN NO.	Description
1	STROBE#	2	AUTO FROM FEED#
3	DATA0	4	ERROR#
5	DATA1	6	INITIALIZE
7	DATA2	8	PRINTER SELECT LN#
9	DATA3	10	GND
11	DATA4	12	GND
13	DATA5	14	GND
15	DATA6	16	GND
17	DATA7	18	GND
19	ACKNOWLEDGE	20	GND
21	BUSY	22	GND
23	PARER EMPTY	24	GND
25	PRINTER SELECT	26	NC



Note: BOM default haven't this function by OEM

3-15 WDT/DIO Function port

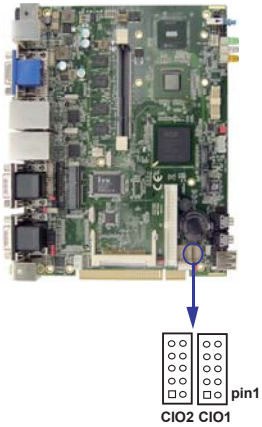
WDT/DIO Function port (2x5 2.0mm Header)

- CIO1 DIO 0—3 (2x5pin 2.0mm wafer)

PIN NO.	Description	PIN NO.	Description
1	DI-0	2	DO-3
3	DI-1	4	DO-2
5	DI-2	6	DO-1
7	DI-3	8	DO-0
9	GND	10	+5V

- CIO2 DIO 4—7 (2x5pin 2.0mm wafer)

PIN NO.	Description	PIN NO.	Description
1	DI-4	2	DO-7
3	DI-5	4	DO-6
5	DI-6	6	DO-5
7	DI-7	8	DO-4
9	GND	10	+5V



3-15-1 For F75111N I2C watch dog timer device:

DC spec :
Input low Voltage (VIL):+0.8 Max ,
Input High Voltage(VIH) : +2V Min
Output low Current (IOL):10mA (Min) VOL=0.4V
Output High Current (IOH):-10mA (Min) VOL=2.4V
Watch Dog Time value 0~255 sec
The system will be issued reset. When WDT is enable the hardware start down counter to zero. The reset timer have 10~20% tolerance upon the Temperature.
Note: If want to SDK support . please contact to sales window.
Please refer to page 41 for WDT/DIO sample code.

Sample W75IO Demo Program

----

1. DI
2. DO
3. WatchDog
4. Exit

Please select demo function<1-4>?
1. DI: Input DI value (0~FF, DI bit 0~7 HI level)
2. DO: Input DO value (0~FF, DO bit 0~7 HI level)
3. WatchDog: Input WatchDog Value (0~256 sec)
4. Exit: Exit program

3-16 I2C WDT/DIO W75IO.h Reference sample code:

Compile platform:TC30 & DOS 6.22

```
// Sample.cpp : Defines the entry point for the console application.
//

#include "stdafx.h"
#include "conio.h"
#include <string.h>
#include <stdlib.h>

#include <iostream>

#include "W75IO.h"              /* include W75IO.h    */

#define DEMO_DI       1
#define DEMO_DO       2
#define DEMO_WDT      3
#define DEMO_EXIT     4

/* demo function */

int         menu();
BOOL        W75IO_init();
void        W75IO_DO();
void        W75IO_DI();
void        W75IO_WDT();

int   stoi(char* str)
{
     if (( strlen(str) < 0 ) || ( strlen(str) >= 3 ))
          return -1;

     int value = 0;

     for (int i=0; i<strlen(str) ;i=i+1)
     {
          int result=0;

          switch (str[i])
          {
               case '0':result=0;
               break;

               case '1':result=1;break;
               case '2':result=2;break;
               case '3':result=3;break;
               case '4':result=4;break;
               case '5':result=5;break;
               case '6':result=5;break;
               case '7':result=7;break;
               case '8':result=8;break;
               case '9':result=9;break;
               case 'a':
               case 'A':result=10;break;
               case 'b':
               case 'B':result=11;break;
               case 'c':
               case 'C':result=12;break;
               case 'd':
               case 'D':result=13;break;
               case 'e':
               case 'E':result=14;break;
               case 'f':
               case 'F':result=15;break;
```

```
                default:
                    result=-1;
                break;
            }

            if (result == -1)
                return -1;

            if (strlen(str) == 1 )
                value=value+result;

            if (strlen(str) == 2 )
            {
                if ( i == 0 )
                {
                    value=value+result*16;
                }
                if ( i == 1 )
                {
                    value=value+result;
                }
            }
        }

        return value;
}

BOOL   W75IO_init()
{
        /* First step :to init W75IO.DLL */
        if (InitializeW75IO())
        {
            /* init onboard W75IO chipset */
            if (InitInternalW75IO())
                return TRUE;
            else
            {
                printf("ERROR:init Onboard W75IO chipset!!!!.\n");
                return FALSE;
            }
        }
        else
        {
            printf("ERROR:Can't init W75IO.DLL!!!.\n");
            return FALSE;
        }

        return FALSE;
}

void W75IO_DO()
{
        int value;

        printf("Please enter your want output value (0-255)   \n");
        cin>>value;

        /* use onboard W75IO output value*/
        InterDigitalOutput(value);
}

void W75IO_DI()
{
        /* read & show onboard W75IO input value*/
```

```
printf("read input input value %d\n",InterDigitalInput());
    getch();
}

void W75IO_WDT()
{
    /* get WDT timer value*/
    int value;

    printf("Please enter WatchDog Timer value (0-255)\n");


    cin>>value;

    /* check value */
    int timer=value;

    if (timer > 255)
    {
        printf("must be > 255\n");

        getch();

        return;
    }


    /* sete onboard W75IO use secord as WatchDog Timer unit */
    SetInterWDTUnit(FALSE);

    /* Enable onboard W75IO WatchDog Timer   */
    EnableInterWDT(timer);


    /* show message... */
    for (int i=0;i<timer;i++)
    {
        printf("the System will reboot after %3d sec ....\n",timer-i);
        Sleep(1000);
    }
}

int menu()
{
    int iOption;

    /* First clean screen */
    system("cls");

    /* show demo menu()*/
    printf("\n");
    printf("------------------------------------ \n");
    printf("Sample W75IO Demo Program \n");
    printf("------------------------------------\n");
    printf("1.DI\n");
    printf("2.DO\n");
    printf("3.WatchDog\n");
    printf("4.Exit\n");
    printf("------------------------------------ \n");
    printf("Please select demo function(1-4)?");

    /* get user select */
    cin>>iOption;

    return iOption;
```

```
}

int main(int argc, char* argv[])
{


     /* get user enter value*/


     if (W75IO_init())
     {
          while (1)
          {
               int option =menu();

               if ( option == 4 )
                    break;

               switch (option)
               {
                    case DEMO_DI:
                         W75IO_DI();
                    break;
                    case DEMO_DO:
                         W75IO_DO();
                    break;

                    case DEMO_WDT:
                         W75IO_WDT();
                    break;

                    case DEMO_EXIT:
                    break;
               }
          }
     }
     return 0;
}
```

3-16-1 I2C WDT/DIO F75111N reference sample code:

Compile platform: Windows (include SMBus.h)

Contents

1. Introduction
   - 1.1 Initial Internal F75111 port address (0x9c)
   - 1.2 Set F75111 DI/DO (sample code as below Get Input value/Set output value)
   - 1.3 Enable/Disable WDT
   - 1.4 PULSE mode
2. Initial internal F75111
3. Set output value
4. Get input value
5. Enable Watch Dog
6. Disable Watch Dog
7. Define F75111 pin

1. Introduction

1-1. Initial Internal F75111 port address (0x9c)

define GPIO1X, GPIO2X, GPIO3X to input or output and Enable WDT function pin

1-2. Set F75111 DI/DO (sample code as below Get Input value/Set output value)

DO: InterDigitalOutput(BYTE byteValue))

DI: InterDigitalInput()

1-3. Enable/Disable WDT

Enable : F75111_SetWDTEnable (BYTE byteTimer)

Disable: F75111_SetWDTDisable ()

1-4. PULSE mode

Sample to setting GP33, 32, 31, 30 output 1mS low pulse signal.

```
{
//This is setting low pulse output
    this->Write_Byte(F75111_INTERNAL_ADDR, GPIO3X_PULSE_CONTROL,      0x00);
//This selects the pulse width to 1mS
    this->Write_Byte(F75111_INTERNAL_ADDR, GPIO3X_PULSE_WIDTH_CONTROL, 0x01);
//This is setting the GP33, 32, 31, 30 to output function.
    this->Write_Byte(F75111_INTERNAL_ADDR, GPIO3X_CONTROL_MODE,      0x0F);
//This is setting the GP33, 32, 31, 30
    this->Write_Byte(F75111_INTERNAL_ADDR, GPIO3X_Output_Data ,      0x0F);
}
```

2. Initial internal F75111

```
void F75111::InitInternalF75111()
    {
     //set GPIO1X to Input  function
            this->Write_Byte(F75111_INTERNAL_ADDR,GPIO1X_CONTROL_MODE  ,0x00);
     //set GPIO3X to Input  function
            this->Write_Byte(F75111_INTERNAL_ADDR,GPIO3X_CONTROL_MODE  ,0x00);
     //set GPIO2X to Output function
           this->Write_Byte(F75111_INTERNAL_ADDR,GPIO2X_CONTROL_MODE  ,0xFF);
    //Enable WDT OUT function
         this->Write_Byte(F75111_INTERNAL_ADDR,F75111_CONFIGURATION, 0x03);
    }
```

3. Set output value

```
void F75111::InterDigitalOutput(BYTE byteValue)
{
       BYTE byteData = 0;
       byteData = (byteData & 0x01 )? byteValue + 0x01 : byteValue;
       byteData = (byteData & 0x02 )? byteValue + 0x02 : byteValue;
       byteData = (byteData & 0x04 )? byteValue + 0x04 : byteValue;
       byteData = (byteData & 0x80 )? byteValue + 0x08 : byteValue;
       byteData = (byteData & 0x40 )? byteValue + 0x10 : byteValue;
       byteData = (byteData & 0x20 )? byteValue + 0x20 : byteValue;
       byteData = (byteData & 0x10 )? byteValue + 0x40 : byteValue;
       byteData = (byteData & 0x08 )? byteValue + 0x80 : byteValue;          // get value bit by bit
// write byteData value via GPIO2X output pin
    this->Write_Byte(F75111_INTERNAL_ADDR,GPIO2X_OUTPUT_DATA,byteData);
}
```

4. Get Input value

```
BYTE F75111::InterDigitalInput()
{
       BYTE byteGPIO1X = 0;
       BYTE byteGPIO3X = 0;
       BYTE byteData   = 0;
 // Get value from GPIO1X
        this->Read_Byte(F75111_INTERNAL_ADDR,GPIO1X_INPUT_DATA,&byteGPIO1X) ;
 // Get value from GPIO3X
        this->Read_Byte(F75111_INTERNAL_ADDR,GPIO3X_INPUT_DATA,&byteGPIO3X) ;
```

```
    byteGPIO1X = byteGPIO1X  & 0xF0;                // Mask unuseful value
    byteGPIO3X = byteGPIO3X  & 0x0F;                // Mask unuseful value

    byteData = ( byteGPIO1X & 0x10 )? byteData + 0x01 : byteData;
    byteData = ( byteGPIO1X & 0x80 )? byteData + 0x02 : byteData;
    byteData = ( byteGPIO1X & 0x40 )? byteData + 0x04 : byteData;
    byteData = ( byteGPIO3X & 0x01 )? byteData + 0x08 : byteData;

    byteData = ( byteGPIO3X & 0x02 )? byteData + 0x10 : byteData;
    byteData = ( byteGPIO3X & 0x04 )? byteData + 0x20 : byteData;
    byteData = ( byteGPIO3X & 0x08 )? byteData + 0x40 : byteData;
    byteData = ( byteGPIO1X & 0x20 )? byteData + 0x80 : byteData;
// Get correct DI value from GPIO1X & GPIO3X

      return byteData;
}
```

5. Enable WatchDog

```
void F75111_SetWDTEnable (BYTE byteTimer)
{
// set WatchDog range and timer
     WriteByte(F75111_INTERNAL_ADDR,WDT_TIMER_RANGE  ,byteTimer);
// Enable WatchDog, Setting WatchDog configure
     WriteByte(F75111_INTERNAL_ADDR,WDT_CONFIGURATION,WDT_TIMEOUT_FLAG | WDT_ENABLE |
     WDT_PULSE | WDT_PSWIDTH_100MS);
}
```

6. Disable WatchDog

```
void F75111_SetWDTDisable ()
{
      WriteByte(F75111_INTERNAL_ADDR,WDT_CONFIGURATION,0x00);
}
```

7. Define F75111 pin in F75111.h

```
//-------------------------------------------------------------------------------------------------
#define   F75111_INTERNAL_ADDR                  0x9C  // OnBoard  F75111 Chipset
#define   F75111_EXTERNAL_ADDR                  0x6E  // External F75111 Chipset
//-------------------------------------------------------------------------------------------------
#define   F75111_CONFIGURATION                  0x03  // Configure GPIO13 to WDT2 Function
//-------------------------------------------------------------------------------------------------
#define   GPIO1X_CONTROL_MODE                   0x10  // Select Output Mode or Input Mode
#define   GPIO2X_CONTROL_MODE                   0x20  // Select GPIO2X Output Mode or Input Mode
#define   GPIO3X_CONTROL_MODE                   0x40  // Select GPIO3X Output Mode or Input Mode
//-------------------------------------------------------------------------------------------------
#define   GPIO1X_INPUT_DATA                     0x12  // GPIO1X Input
#define   GPIO3X_INPUT_DATA                     0x42  // GPIO3X Input
//-------------------------------------------------------------------------------------------------
#define   GPIO2X_OUTPUT_DATA                    0x21  // GPIO2X Output
//-------------------------------------------------------------------------------------------------
#define   GPIO1X_PULSE_CONTROL                  0x13  // GPIO1x Level/Pulse Control Register
                                                      // 0:Level Mode
                                                      // 1:Pulse Mode
#define   GPIO1X_PULSE_WIDTH_CONTROL            0x14  // GPIO1x Pulse Width Control Register
#define   GP1_PSWIDTH_500US                     0x00  // When select Pulse mode:500us.
#define   GP1_PSWIDTH_1MS                       0x01  // When select Pulse mode:1ms.
#define   GP1_PSWIDTH_20MS                      0x02  // When select Pulse mode:20ms.
#define   GP1_PSWIDTH_100MS                     0x03  // When select Pulse mode:100ms.
//-------------------------------------------------------------------------------------------------
#define   GPIO2X_PULSE_CONTROL                  0x23  // GPIO2x Level/Pulse Control Register
                                                      // 0:Level Mode
                                                      // 1:Pulse Mode
#define   GPIO2X_PULSE_WIDTH_CONTROL            0x24  // GPIO2x Pulse Width Control Register
#define   GP2_PSWIDTH_500US                     0x00  // When select Pulse mode:500us.
#define   GP2_PSWIDTH_1MS                       0x01  // When select Pulse mode:1ms.
#define   GP2_PSWIDTH_20MS                      0x02  // When select Pulse mode:20ms.
#define   GP2_PSWIDTH_100MS                     0x03  // When select Pulse mode:100ms.
//-------------------------------------------------------------------------------------------------
#define   GPIO3X_PULSE_CONTROL                  0x43  // GPIO3x Level/Pulse Control Register
                                                      // 0:Level Mode
                                                      // 1:Pulse Mode
#define   GPIO3X_Output_Data                    0x41  // GPIO3x Output Data Register
#define   GPIO3X_PULSE_WIDTH_CONTROL            0x44  // GPIO3x Pulse Width Control Register
#define   GP3_PSWIDTH_500US                     0x00  // When select Pulse mode:500us.
#define   GP3_PSWIDTH_1MS                       0x01  // When select Pulse mode:1ms.
```

```
#define    GP3_PSWIDTH_1MS                0x01  //  When select Pulse mode: 1    ms.
#define    GP3_PSWIDTH_20MS               0x02  //  When select Pulse mode: 20   ms.
#define    GP3_PSWIDTH_100MS              0x03  //  When select Pulse mode:100 ms.
//-------------------------------------------------------------------------------------------
#define    WDT_TIMER_RANGE                 0x37  //  0-255 (secord or minute program by
                                                 //   WDT_UNIT)
#define    WDT_CONFIGURATION              0x36  //  Configure WDT Function
#define    WDT_TIMEOUT_FLAG               0x40  //  When watchdog timeout.this bit will be set
to 1.
#define    WDT_ENABLE                     0x20  //  Enable watchdog timer
#define    WDT_PULSE                      0x10  //  Configure WDT output mode
                                                 //  0:Level Mode
                                                 //  1:Pulse Mode

#define    WDT_UNIT                       0x08  //  Watchdog unit select.
                                                 //  0:Select second.
                                                 //  1:Select minute.

#define    WDT_LEVEL                      0x04  //  When select level output mode:
                                                 //  0:Level low
                                                 //  1:Level high

#define    WDT_PSWIDTH_1MS                0x00  //  When select Pulse mode:  1     ms.
#define    WDT_PSWIDTH_20MS               0x01  //  When select Pulse mode:  20    ms.
#define    WDT_PSWIDTH_100MS              0x02  //  When select Pulse mode:  100   ms.
#define    WDT_PSWIDTH_4000MS             0x03  //  When select Pulse mode:  4     s.
```

Contents

1. Write_Byte Mode
2. Read_Byte Mode
3. Check Device (F75111)
4. SMBus_Clear
5 SMBus_Wait
6. SMBus_Busy
7. IO_Write
8. IO_Read
9. Define SMBus IO address
10. Define SMBus pin in SMBus.

1. Write Byte Mode

```
int SMBus::Write_Byte(WORD dwSlave, BYTE pCmd, BYTE pByte)
{
      this->SMBus_Clear();                              // Clear SMBus data first

if (this->SMBus_Busy())                                 // Check SMBus busy or not, return busy if busy
          return SMBUS_BUSY;

    this->IO_Write(SMBHSTADD  , dwSlave & ~1 );         // write address in first variable
    this->IO_Write(SMBHSTCMD  , pCmd );                 // write command in second variable
    this->IO_Write(SMBHSTDAT0 , pByte );                // write data in third variable
    this->IO_Write(SMBHSTCNT  , SMBHSTCNT_START | SMBHSTCNT_BYTE);
    // Sent start command to SMBus control register

return (int)this->SMBus_Wait();                         // return wait command when SMBus finish the job
}
```

2. Read Byte Mode

```
int SMBus::Read_Byte(WORD dwSlave, BYTE pCmd, BYTE *pByte)
{
     this->SMBus_Clear();                               // Clear SMBus data first

     if (this->SMBus_Busy())                            // Check SMBus busy or not, return busy if busy
      return SMBUS_BUSY;

      this->IO_Write(SMBHSTADD  , dwSlave | 1 );        // write address in first variable
      this->IO_Write(SMBHSTCMD  , pCmd );               // write command in second variable
      this->IO_Write(SMBHSTCNT  , SMBHSTCNT_START | SMBHSTCNT_BYTE);
// Sent start command to SMBus control register
```

```
    int ret = this->SMBus_Wait();                          // Check SMBus Status

    if (ret == SMBUS_OK)                                   // If SMBus Stand by
    {
        *pByte = (BYTE)this->IO_Read(SMBHSTDAT0) &0xFF;  // Get SMBus host data value
    }
    return ret;                                            // reture SMBus status
}
```

3. Check Device (F75111)

```
BOOL SMBus::CheckDevice(WORD wDeviceAddress)
{
    int ret;
    this->SMBus_Clear();                                   // Clear SMBus data first

    if (this->SMBus_Busy())                                // Check SMBus busy or not, return busy if busy
        return SMBUS_BUSY;

    this->IO_Write(SMBHSTADD , wDeviceAddress & ~1 );   // write address in first variable
    this->IO_Write(SMBHSTCNT , SMBHSTCNT_START | SMBHSTCNT_SENDRECV);
// Sent start command to SMBus control register

    ret = this->SMBus_Wait();                          // Check SMBus Status

    if (ret == SMBUS_OK)                               // Check device exist or not, if exist return ture else false
        return TRUE;
    else
        return FALSE;
}
```

4. SMBus_Clear

```
void SMBus::SMBus_Clear()
{
    this->IO_Write(SMBHSTSTS ,0xFF);                   // Clear SMBus status
    this->IO_Write(SMBHSTDAT0,0x0 );                   // Clear SMBus data
}
```

5. SMBus_Wait

```
int SMBus::SMBus_Wait()
{
    int          timeout = SMBUS_TIMEOUT;
    DWORD  dwValue;

    while (timeout--)
    {
        Sleep(10);                                          // I/O Delay
        dwValue = IO_Read(SMBHSTSTS) & 0x00FF;              // Read Host Status Register
        if( dwValue & SMBHSTSTS_INTR )                      // if status value equal
    SMBHSTSTS_INTR, return SMBus_OK
        {
            return SMBUS_OK;
        }
    // if status value equal SMBHSTSTS_FAILED, return SMBHSTSTS_FAILED
        if( dwValue & SMBHSTSTS_FAILED )
        {
            printf("SMBus Action FAILED! %x\n",dwValue);
            return SMBHSTSTS_FAILED;
        }
    // if status value equal SMBHSTSTS_COLLISION, return SMBHSTSTS_COLLISION
        if(dwValue & SMBHSTSTS_COLLISION)
        {
            printf("SMBus Action COLLISION! %x\n",dwValue);
            return SMBHSTSTS_COLLISION;
        }
    // if status value equal SMBHSTSTS_ERROR, return SMBHSTSTS_ERROR
        if(dwValue & SMBHSTSTS_ERROR)
        {
            printf("SMBus Action ERROR! %x\n",dwValue);
            return SMBHSTSTS_ERROR;
        }
    }
    return SMBUS_BUSY;
}
```

6. SMBus_Busy

```
BOOL SMBus::SMBus_Busy()
{
// Check SMBus status if equal SMBHSTSTS_BUSY
    if( (this->IO_Read(SMBHSTSTS) & SMBHSTSTS_BUSY ) == 1 )
        return TRUE;                        // return true
    else
        return FALSE;                       // else retrun false
}
```

7. IO_Write

```
void SMBus::IO_Write(WORD dwOffset, BYTE dwData)
{
// Set dwData value to assigned address
    SetPortVal(this->m_MapIOAddress+dwOffset, dwData,1);
}
```

8. IO_Read

```
BYTE SMBus::IO_Read(WORD dwOffset)
{
    DWORD dwAddrVal;

// Get dwAddrVal value from assigned address
    GetPortVal(this->m_MapIOAddress+dwOffset,&dwAddrVal,1);
    return (BYTE)(dwAddrVal & 0x0FF);
}
```

9. Define SMBus IO address

```
SMBus::SMBus()
{
   this->m_MapIOAddress = 0x500;
}
```

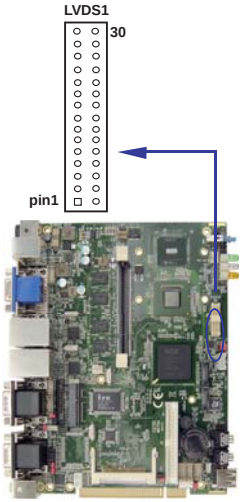
10. Define SMBus pin in SMBus.h

```
#define    SMBHSTSTS                              0x00    // SMBus Host  Status Register Offset
#define    SMBHSTSTS_BUSY              0x01    // SMBus Host -> 0000-0001 Busy
#define    SMBHSTSTS_INTR              0x02    // SMBus Host -> 0000-0010 Interrupt / complection
#define    SMBHSTSTS_ERROR             0x04    // SMBus Host -> 0000-0100 Error
#define    SMBHSTSTS_COLLISION         0x08    // SMBus Host -> 0000-1000 Collistion
#define    SMBHSTSTS_FAILED            0x10    // SMBus Host -> 0001-0000 Failed
//-------------------------------------------------------------------------------
#define    SMBHSTCNT                   0x02    // SMBus Host Contorl Register Offset
#define    SMBHSTCNT_KILL              0x02    // SMBus Host Contorl -> 0000 0010 Kill
#define    SMBHSTCNT_QUICK             0x00    // SMBus Host Contorl -> 0000 0000 quick (default)
#define    SMBHSTCNT_SENDRECV          0x04    // SMBus Host Contorl -> 0000 0100 Byte
#define    SMBHSTCNT_BYTE              0x08    // SMBus Host Contorl -> 0000 1000 Byte Data
#define    SMBHSTCNT_WORD              0x0c    // SMBus Host Contorl -> 0000 1100 Word Data
#define    SMBHSTCNT_BLOCK             0x14    // SMBus Host Contorl -> 0001 0100 Block
#define    SMBHSTCNT_START             0x40    // SMBus Host Contorl -> 0100 0000 Start
//-------------------------------------------------------------------------------
#define    SMBHSTCMD                   0x03    // SMBus Host Command    Register Offset
#define    SMBHSTADD                   0x04    // SMBus Host Address    Register Offset
#define    SMBHSTDAT0                  0x05    // SMBus Host Data0      Register Offset
#define    SMBHSTDAT1                  0x06    // SMBus Host Data1      Register Offset
#define    SMBBLKDAT                   0x07    // SMBus Host Block Data Register Offset
//-------------------------------------------------------------------------------
//     SMBus Bus Status Code
//-------------------------------------------------------------------------------
#define    SMBUS_OK                    0x0     // SMBUS OK
#define    SMBUS_BUSY                  0x1     // SMBUS BUSY
#define    SMBUS_INT                   0x2     // SMBUS INTR
#define    SMBUS_ERROR                 0x4     // SMBUS ERROR
//-------------------------------------------------------------------------------
#define    SMBUS_TIMEOUT               100
```

3-17 LVDS Interface Connector

- **LVDS1: 18bit LVDS interface from 945GSE chipset (2x15 pin 1.25mm wafer)**

PIN NO.	Description	PIN NO.	Description
1	PWM dimming	2	+5V
3	+LCD (5V or 3.3V)	4	+LCD (5V or 3.3V)
5	NC	6	NC
7	NC	8	NC
9	Channel-0-DATA2+	10	Channel-0-CLK+
11	Channel-0-DATA2-	12	Channel-0-CLK-
13	GND	14	GND
15	Channel-0-DATA1+	16	Channel-0-DATA0+
17	Channel-0-DATA1-	18	Channel-0-DATA0-
19	GND	20	GND
21	+LCD(5V or 3.3V)	22	+LCD(5V or 3.3V)
23	NC	24	NC
25	NC	26	NC
27	NC	28	NC
29	NC	30	NC

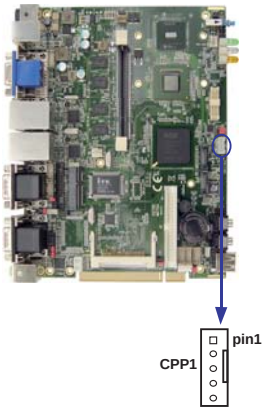


Note: 1. JVL1: LVDS panel +5V/+3.3V Voltage select
2. LVDS1 PIN 1 for panel backlight active default Hi or Low by JSD1 jumper setting.
3. Pin 1 back light dimming control.
provided 200Hz / 275Hz / 380Hz / 20KHz /25KHz
and adjust PWM duty cycle by software program .

3-18 Panel Power Connector

- CPP1: Panel Inverter power (5pin 2.0mm wafer)

PIN NO.	Description
1	+12V or +5V
2	GND
3	PWM dimming
4	ENBKL(3.3V)
5	ENBKL(5V)



Note : 1. JVP1 Inverter Voltage select
2. CCP1 PIN 3 and LVDS1 PIN1 is same signal.
Default active setup by JSD1
3. Pin 3 back light dimming control .
provided 200Hz / 275Hz / 380Hz / 20KHz /25KHz
and adjust PWM duty cycle by software program .

3-19 Touch screen device

CT1: Touch screen (2x5 pin 2.0mm wafer)

- **For 8- wire type pin define**

PIN NO.	Description	PIN NO.	Description
1	Bottom	2	Bottom Sense
3	Top Sense	4	Top
5	Right	6	Right Sense
7	Left Sense	8	Left
9	GND	10	KEY

Note: For eight wire type cable Pin 3 and Pin4 need short.

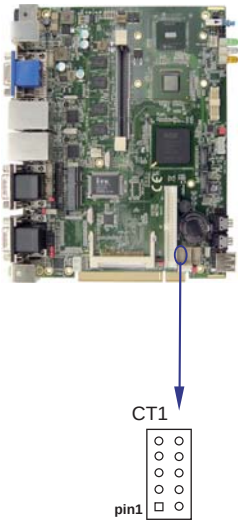
- **For 4- wire type pin define**

PIN NO.	Description	PIN NO.	Description
1	Left	2	N/A
3	N/A	4	Top
5	Right	6	N/A
7	Bottom	8	N/A
9	GND	10	KEY

Note: For four wire type cable Pin 3 and Pin4 need short.

- **For 5- wire type pin define**

PIN NO.	Description	PIN NO.	Description
1	UR(H)	2	N/A
3	Sense	4	UL(Y)
5	LR(X)	6	N/A
7	LL(L)	8	N/A
9	GND	10	KEY



3-20 DC 12V IN

- **CPI1: DC 12V-IN external Connector (4pin mini din connector)**

PIN NO.	Description
1,2	+12V DC-IN
3,4	GND

- **CPI11: DC 12V-IN Internal Connector (4pin connector) (Option)**

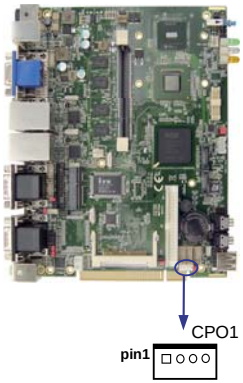
PIN NO.	Description
1,2	+12V DC-IN
3,4	GND

3-21 DC +5/+12V output connector

- **CPO1 : +12V/+5V DC voltage output (4pin 2.5mm Wafer)**

PIN NO.	Description
1	+5V
2	GND
3	GND
4	+12V*

***Note: DC in +12V by switch to DC-out voltage +12V, so DC in need stable +12V input**

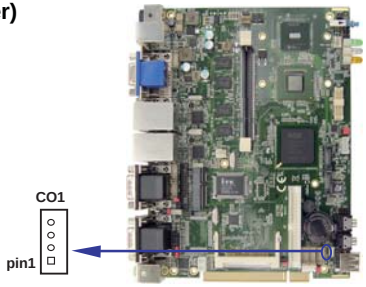


3-22 I2C Bus Interface

- **CO1: I2C(SM) bus connector (4 pin 1.25mm wafer)**

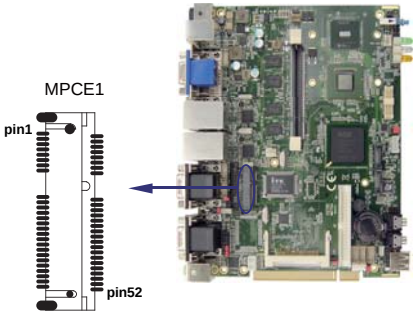
PIN NO.	Description
1	+3.3V
2	GND
3	I2C CLK
4	I2C DATA

Note: BOM default haven't this function by OEM



3-23 Mini card

- **MPCE1: Support USB and PCIe by one Interface (Mini card socket 52pin)**



3-24 Front-Panel

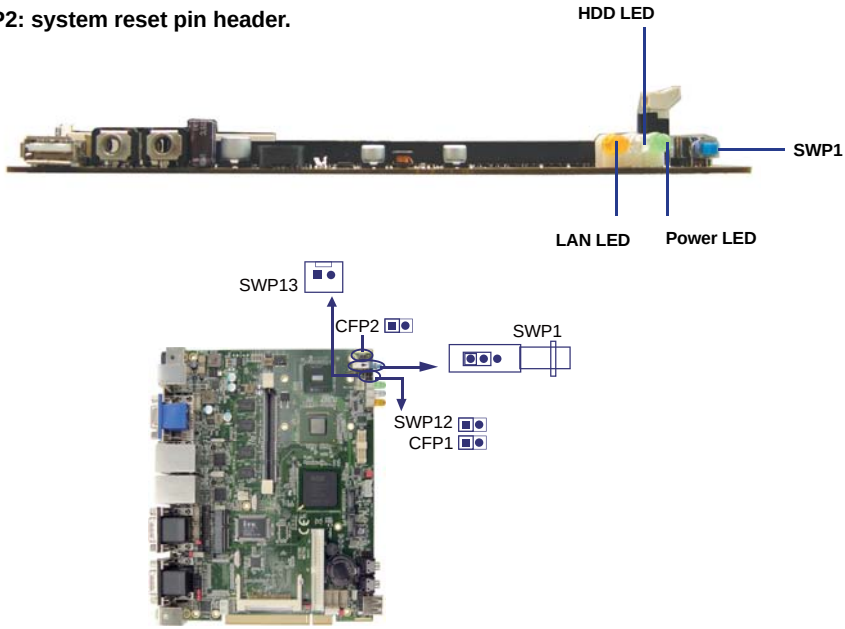
- **Power switch: PW-ON--- SWP1**
  SWP1 / SWP12 / SWP13 : system push button power switch
  Based on case design , there may be a power switch or a 2-pin header connected to the case-mounted power switch. It is used to power ON/OFF the system.

- **Power LED: PW-LED / CFP1**
  The Power LED is lit while the system power is on.

- **IDE Activity LED: HDD-LED**
  HDD-LED shows the activity of the hard disk.

- **LAN LED Activity LED**
  LAN LED shows the activity of network

CFP2: system reset pin header.



Chapter 4

Introduction of BIOS

The BIOS is a program located in the Flash Memory on the motherboard. This program is a bridge between motherboard and operating system. When you start the computer, the BIOS program gains control. The BIOS first operates an auto-diagnostic test called POST (Power on Self Test) for all the necessary hardware, it detects the entire hardware devices and configures the parameters of the hardware synchronization. After these tasks are completed, BIOS will give control of the computer back to operating system (OS). Since the BIOS is the only channel for hardware and software to communicate with, it is the key factor of system stability and of ensuring your system performance at best.

In the BIOS Setup main menu, you can see several options. We will explain these options in the following pages. First, let us see the function keys you may use here:

Press <Esc> to quit the BIOS Setup.
Press ↑↓←→(up, down, left, right) to choose the option you want to confirm or modify.
Press <F10> to save these parameters and to exit the BIOS Setup menu after you complete the setup of BIOS parameters.
Press Page Up/Page Down or +/- keys to modify the BIOS parameters for the active option.

4-1 Enter Setup

Power on the computer and press <Del> key immediately to enter Setup.
If the message disappears before your respond but you still wish to enter Setup, restart the system by turning it OFF then ON button on the system case.
You may also restart the system by simultaneously pressing <Ctrl>, <Alt> and <Delete> keys.

4-2 Getting Help

Main Menu

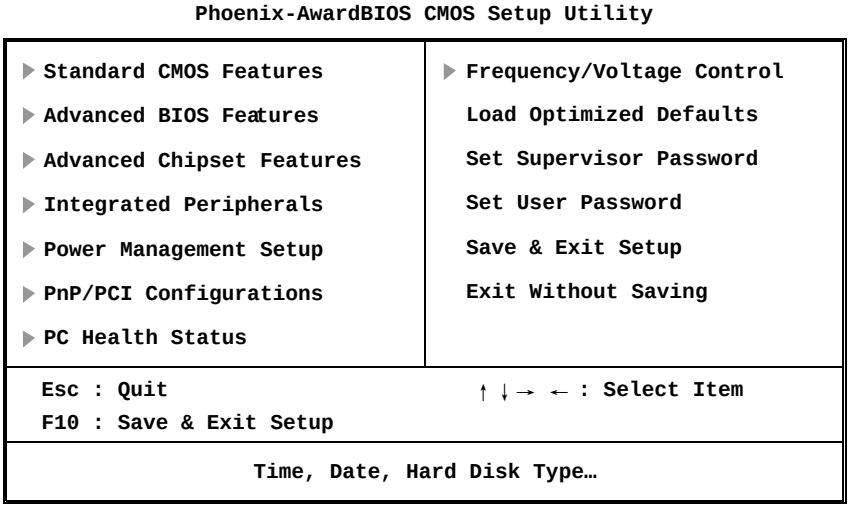
The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu/ Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window, press <Esc>.

4-3 The Main Menu

Once you enter Award BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu has fourteen setup functions and two exit choices. Use arrow keys to select among these items. Press <Enter> to accept or enter the sub-menu.



Standard CMOS Features
This Menu is for basic system configurations.

Advanced BIOS Features
This menu is to set the Advanced Features available in your system.

Advanced Chipset Features
This menu is to change the values in the chipset registers and optimize your system performance.

Integrated Peripherals
This menu is to specify your settings for integrated peripherals.

Power Management Setup
This menu is to specify your settings for power management.

PnP/PCI configurations
This entry appears if your system supports PnP/PCI.

PC Health Status
This entry shows your PC health status.

Load Optimized Defaults
Use this menu to load the BIOS default values for optimal system performances.

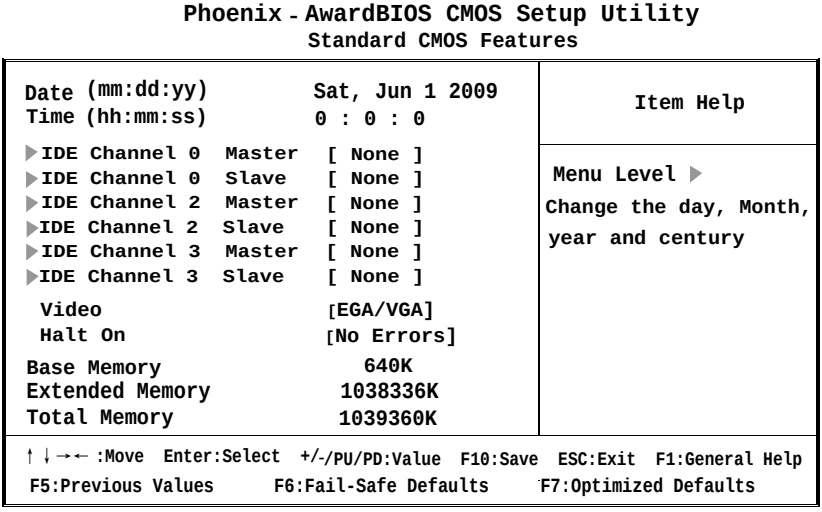
Set Supervisor/User Password
This menu is to set User and Supervisor Passwords.

Save & Exit Setup
Save CMOS values modified to CMOS and exit setup.

Exit Without Saving
Abandon all the CMOS values modified and exit setup.

4-4 Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into several categories.
Each category includes none, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want to modify with this item.

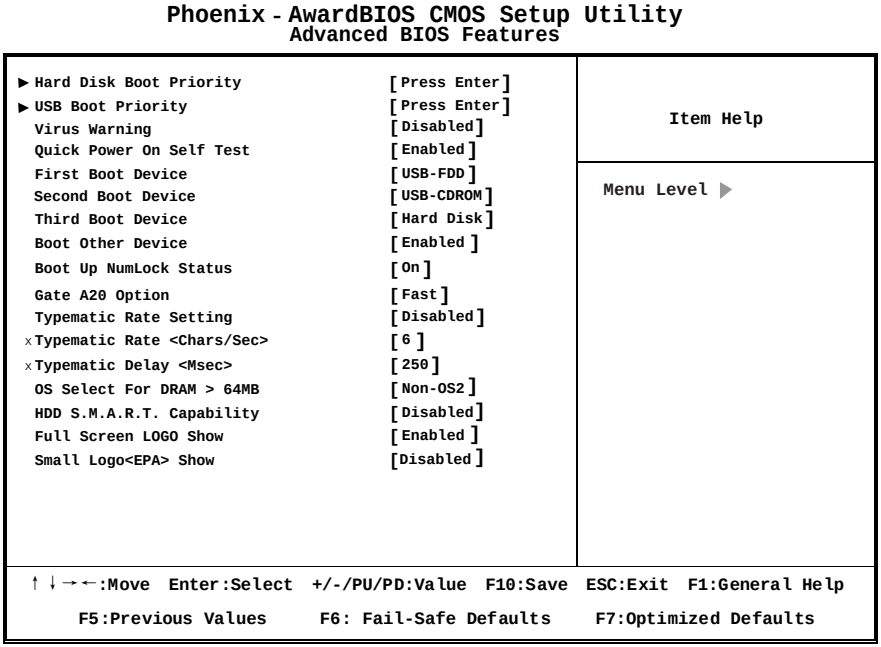

Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Date (mm:dd:yy) Sat, Jun 1 2009
Time (hh:mm:ss) 0 : 0 : 0
IDE Channel 0 Master [None]
IDE Channel 0 Slave [None]
IDE Channel 2 Master [None]
IDE Channel 2 Slave [None]
IDE Channel 3 Master [None]
IDE Channel 3 Slave [None]
Video [EGA/VGA]
Halt On [No Errors]
Base Memory 640K
Extended Memory 1038336K
Total Memory 1039360K
Item Help
Menu Level ▶
Change the day, Month, year and century
↑ ↓ → ← :Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

IDE Primary/Secondary Master/Slave
Press PgUp/<+> or PgDn/<-> to select Manual, None, Auto type. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If your hard disk drive type is not matched or listed, you can use Manual to define your own drive type manually. If you select Manual, related information is asked to be entered to the following items. Enter the information directly from the keyboard. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

Video
The setting controls the type of video adapter used for the primary monitor of the system. Settings are: EGA/VGA (default), CGA 40, CGA 80 and Mono.

Halt On
The setting determines whether the system will stop if an error is detected at boot.
Settings are: All Errors: The system stops when any error is detected.
No Errors (default): The system doesn't stop for any detected error.
All, But Keyboard: The system doesn't stop for a keyboard error.
All, But Diskette: The system doesn't stop for a disk error.
All, But Disk/ Key: The system doesn't stop for either a disk or a keyboard error.

4-5 Advanced BIOS Features


Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features
▶ Hard Disk Boot Priority [Press Enter]
▶ USB Boot Priority [Press Enter]
Virus Warning [Disabled]
Quick Power On Self Test [Enabled]
First Boot Device [USB-FDD]
Second Boot Device [USB-CDROM]
Third Boot Device [Hard Disk]
Boot Other Device [Enabled]
Boot Up NumLock Status [On]
Gate A20 Option [Fast]
Typematic Rate Setting [Disabled]
x Typematic Rate <Chars/Sec> [6]
x Typematic Delay <Msec> [250]
OS Select For DRAM > 64MB [Non-OS2]
HDD S.M.A.R.T. Capability [Disabled]
Full Screen LOGO Show [Enabled]
Small Logo<EPA> Show [Disabled]
Item Help
Menu Level ▶
↑ ↓ → ←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

Hard Disk Boot Priority

Please refer section.

USB Boot Priority

Please refer section.

Virus Warning

The Virus Warning feature can help you protect IDE Hard Disk boot sector.
If this function is enabled, BIOS will show a warning message on screen and alarm beep when someone attempts to write data into this area without permission.

Disabled (Default) No warning message appears when anything attempts to access the boot sector or hard disk partition table.

Enabled Activate automatically when the system boots up. The system will show the warning message if anything attempts to access the boot sector of hard disk partition table.

Quick Power On Self Test
This category speeds up Power On Self Test (POST) after you power on the computer. If this is set to Enabled, BIOS will shorten or skip some check items during POST.

Enabled (Default) Enable quick POST
Disabled Normal POST

First/Second/Third Boot Device
The BIOS attempts to load the operating system from the devices in the sequence selected in these items.
Settings are: LS120, Hard Disk, CDROM, USB-Device, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, LAN and Disabled

Boot Other Device
Setting the option to Enabled allows the system to try to boot from other devices if the system fails to boot from the 1st/2nd/3rd boot device.

Boot Up NumLock Status
On (Default) Keypad is numeric keys.
Off Keypad is arrow keys.

Gate A20 Option
Normal The A20 signal is controlled by keyboard controller or chipset hardware.
Fast (Default) The A20 signal is controlled by port 92 or chipset specific method.

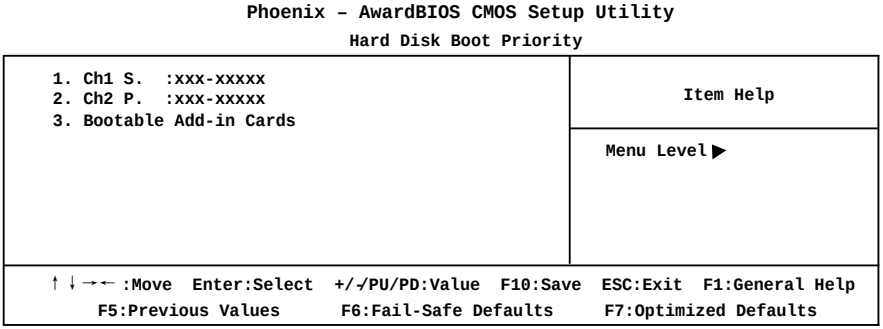
Typematic Rate Setting
Keystrokes repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be selected. The settings are: Enabled/Disabled.

Typematic Rate (Chars/Sec)
Sets the number of times a second to repeat a keystroke when you hold the key down.
Settings are: 6, 8, 10, 12, 15, 20, 24, and 30.

Typematic Delay (Msec)
Sets the delay time after the key is held down before is begins to repeat the keystroke.
Settings are 250, 500, 750, and 1000.

OS Select For DRAM > 64MB
Allows OS2 to be used with >64MB or DRAM. Settings are Non-OS/2 (Default) and OS2. Set to OS/2 if using more than 64MB and running OS/2

4-5-1 Hard Disk Boot Priority


Phoenix – AwardBIOS CMOS Setup Utility
Hard Disk Boot Priority
1. Ch1 S. :xxx-xxxxx
2. Ch2 P. :xxx-xxxxx
3. Bootable Add-in Cards
Item Help
Menu Level ▶
↑ ↓ →← :Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

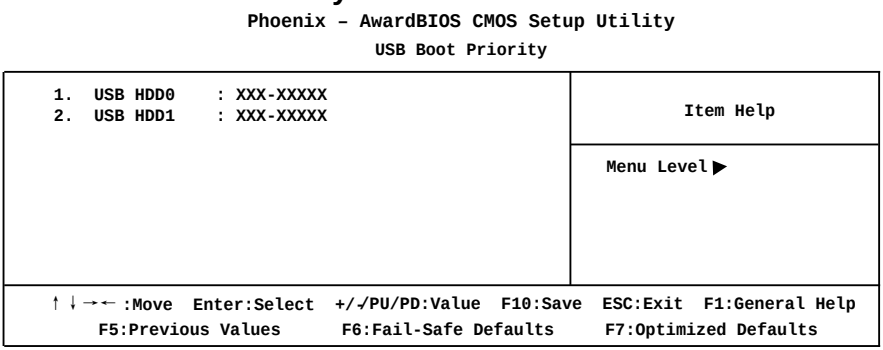
Ch1 S/Ch2 P

It allows you to set the priority for hard disk boot. When you press enter, the selections shows the current hard disks used in your system

Bootable Add-in Cards

that is relevant to other boot sources media such as SCSI cards and LAN cards.

4-5-2 USB Boot Priority

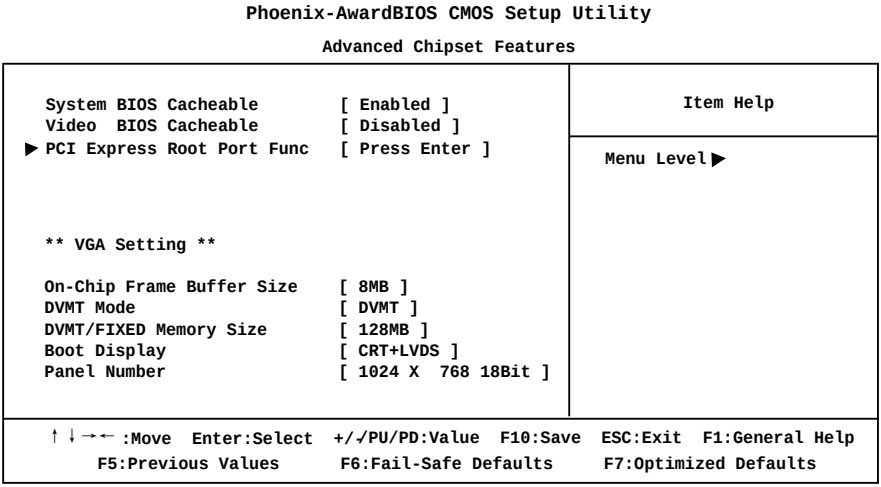

Phoenix – AwardBIOS CMOS Setup Utility
USB Boot Priority
1. USB HDD0 : XXX-XXXXX
2. USB HDD1 : XXX-XXXXX
Item Help
Menu Level ▶
↑ ↓ →← :Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

USB HDD0/USB HDD1

It allows you to set the priority for USB storage boot. When you press enter, the selections shows the current USB storage used in your system

4-6 Advanced Chipset Features

The Advanced Chipset Features Setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.


Phoenix-AwardBIOS CMOS Setup Utility
Advanced Chipset Features
System BIOS Cacheable [Enabled]
Video BIOS Cacheable [Disabled]
▶ PCI Express Root Port Func [Press Enter]
** VGA Setting **
On-Chip Frame Buffer Size [8MB]
DVMT Mode [DVMT]
DVMT/FIXED Memory Size [128MB]
Boot Display [CRT+LVDS]
Panel Number [1024 X 768 18Bit]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

System BIOS Cacheable

Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.
Settings are: Enabled (default) and Disabled.

Video BIOS Cacheable

Select Enabled allows caching of the video BIOS, resulting in better system performance. However, if any program writes to this memory area, a system error may result.
Settings are: Enabled and Disabled (default).

PCI Express Root Port Func

Please refer to section

On-chip Frame Buffer Size

This item allows you to select on-chip buffer size
The item choice: 1MB, 8MB (default)

DVMT Mode
This item allows you to select the DVMT mode.
The choice: FIXED, DVMT (default), BOTH

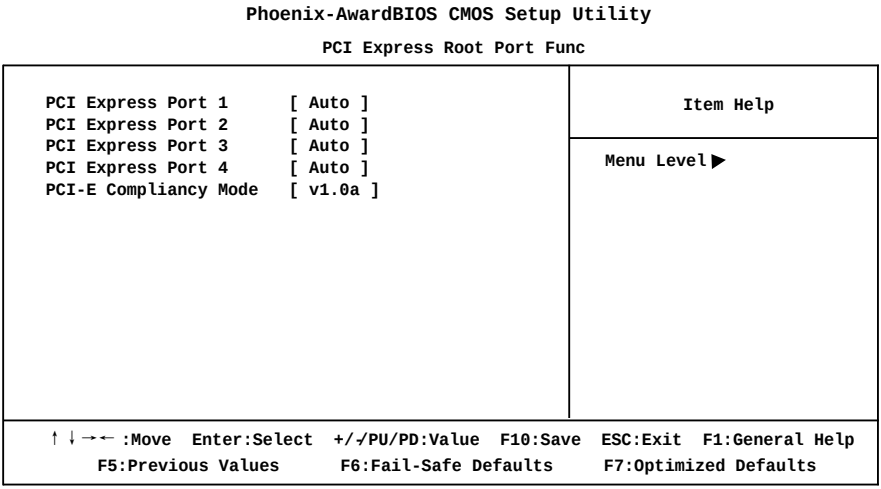
DVMT/FIXED Memory Size
This item allows you to select the DVMT or FIXED graphics memory size.
The memory size choice: 64MB, 128MB (default), 224MB

Boot Display
This item allows you to select the display device.
Display Device: CRT, DVI,LVDS, CRT+LVDS (default),CRT+DVI

Panel Number
This item allows you to select the panel resolution

1. 640 X 480 18bit
2. 800 X 600 18bit *
3. 1024 X 768 18bit * (default)
4. 1280 X 1024 18bit
5. 1400 X 1050 18bit (Reduced Blanking LVDS)
6. 1400 X 1050 18bit (Non-Reduced Blanking LVDS)
7. 1600 X 1200 18bit
8. 1280 X 768 18bit
9. 1680 X 1050 18bit
10. 1920 X 1200 18bit
11. 1280 X 800 18bit
12. 1280 X 600 18bit

4-6-1 PCI Express Root Port Func


Phoenix-AwardBIOS CMOS Setup Utility
PCI Express Root Port Func
PCI Express Port 1 [Auto]
PCI Express Port 2 [Auto]
PCI Express Port 3 [Auto]
PCI Express Port 4 [Auto]
PCI-E Compliancy Mode [v1.0a]
Item Help
Menu Level ▶
↑ ↓ →← :Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

PCI Express Port 1/2/3/4

These items are Disable or Enable port 1 to port 4 of PCIe device.

Note: Port 1 to port 4 will all disables, if you select "Disable" on Port 1 item.

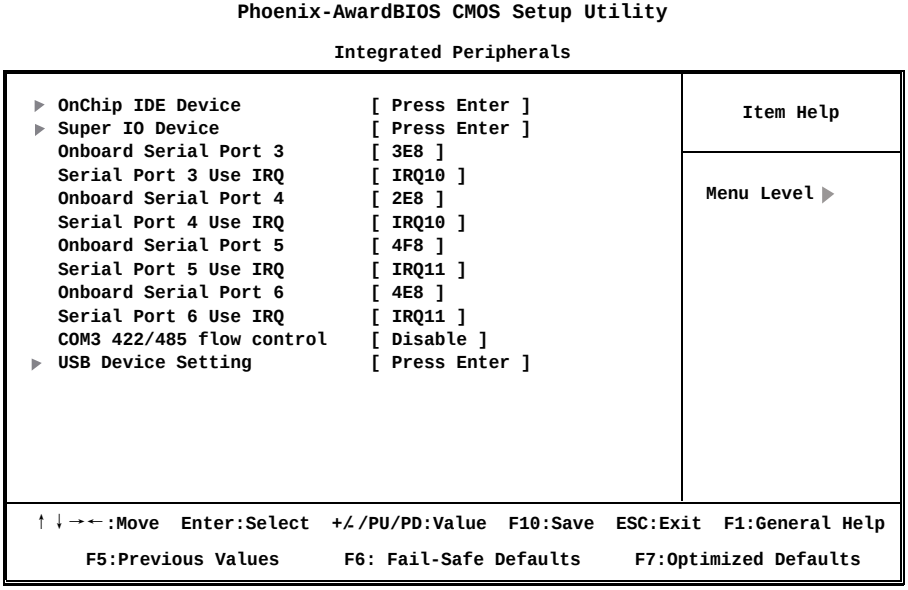
PCI-E Compliancy Mode

This item determines PCI Express bus in mode?

V1.0a (default) it's compliant PCI Express in v1.0a specification.

V1.0 it's compliant PCI Express in v1.0 specification.

4-7 Integrated Peripherals


Phoenix-AwardBIOS CMOS Setup Utility
Integrated Peripherals
OnChip IDE Device [Press Enter]
Super IO Device [Press Enter]
Onboard Serial Port 3 [3E8]
Serial Port 3 Use IRQ [IRQ10]
Onboard Serial Port 4 [2E8]
Serial Port 4 Use IRQ [IRQ10]
Onboard Serial Port 5 [4F8]
Serial Port 5 Use IRQ [IRQ11]
Onboard Serial Port 6 [4E8]
Serial Port 6 Use IRQ [IRQ11]
COM3 422/485 flow control [Disable]
USB Device Setting [Press Enter]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

OnChip IDE Device Function
Please refer to section

Super IO Device Function
Please refer to section

Onboard Serial Port 3~6
Select an address for the third to the sixth serial ports.
Settings are: 3F8, 2F8, 3E8, 2E8, Disabled.

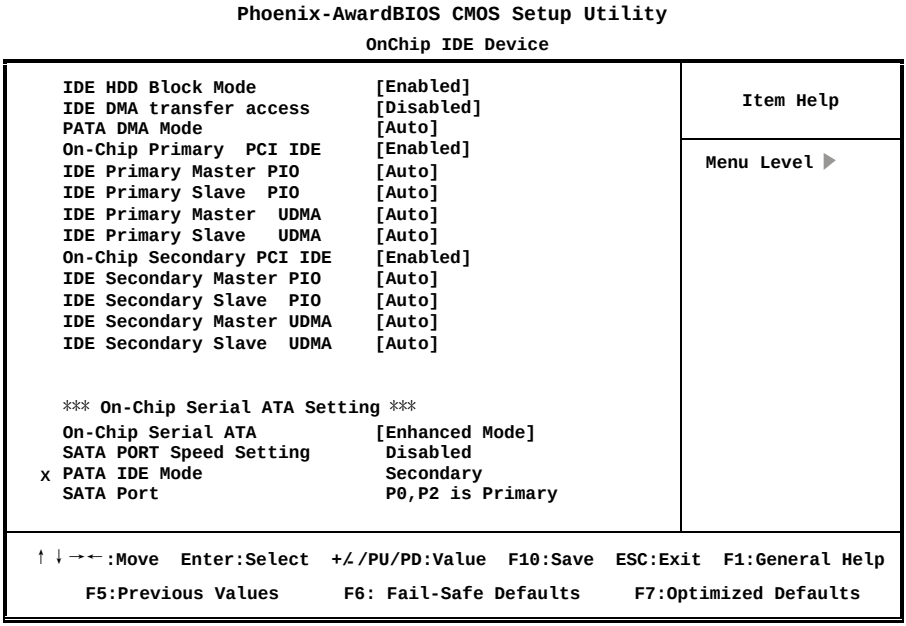
Serial Port 3 ~ 6 Use IRQ
Select an interrupt for the third to the sixth serial ports.
Settings are: IRQ3,IRQ4,IRQ5,IRQ6,IRQ7,IRQ10,IRQ11.
The Serial Port 3 ~ 6 default value below:

PORT	ADDR/IRQ
COM 3	3E8/IRQ10
COM 4	2E8/IRQ10
COM 5	4F8/IRQ11
COM 6	4E8/IRQ11

COM 3 422/485 flow control
This item allows you to disable or enable RS422 or RS485 function on COM 3, if you need.

USB Device Setting
Please refer to section

4-7-1 OnChip IDE Device Function


Phoenix-AwardBIOS CMOS Setup Utility
OnChip IDE Device
IDE HDD Block Mode [Enabled]
IDE DMA transfer access [Disabled]
PATA DMA Mode [Auto]
On-Chip Primary PCI IDE [Enabled]
IDE Primary Master PIO [Auto]
IDE Primary Slave PIO [Auto]
IDE Primary Master UDMA [Auto]
IDE Primary Slave UDMA [Auto]
On-Chip Secondary PCI IDE [Enabled]
IDE Secondary Master PIO [Auto]
IDE Secondary Slave PIO [Auto]
IDE Secondary Master UDMA [Auto]
IDE Secondary Slave UDMA [Auto]
*** On-Chip Serial ATA Setting ***
On-Chip Serial ATA [Enhanced Mode]
SATA PORT Speed Setting Disabled
x PATA IDE Mode Secondary
SATA Port P0,P2 is Primary
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

IDE HDD Block Mode
Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support. The settings are: Disabled, Enabled (default).

PATA DMA Mode
Force IDE device to work in DMA33 or DMA66/100 mode.

Auto (Default) By system determine automatically.
DMA33 Work in DMA 33 mode.
DMA66/100 Work in DMA 66/100 mode.
Note: That is supported fastest speed by IDE device to determine in DMA66 or DMA100.

OnChip IDE Primary/Secondary
The integrated peripheral controller contains an IDE interface with support for two IDE channels.
Select Enabled to activate each channel separately.
Settings are: Enabled (default), Disabled.

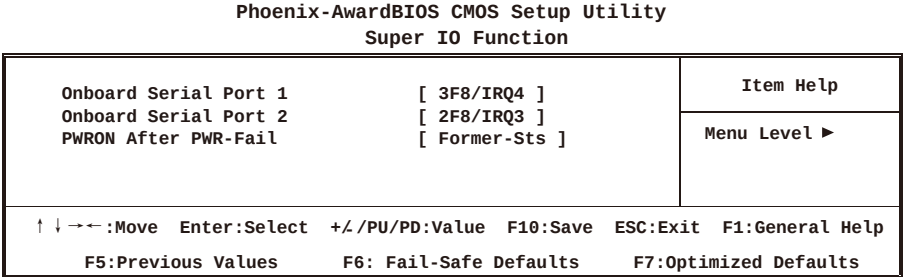
Primary/Secondary Master/Slave PIO
The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.
The settings are: Auto (default), Mode 0, Mode 1, Mode 2, Mode 3 and Mode 4.

Primary/Secondary Master/Slave UDMA
Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver)You're your hard drive and your system software both support Ultra DMA/33 and Ultra DMA/66, select Auto to enable BIOS support.
Settings are: Auto(default) , Disabled.

OnChip Serial SATA
That it has 5 choices as below:

Disable	Disable SATA Controller.
Auto	By system determine automatically.
Combined Mode	PATA and SATA are combined. Max of 2 IDE drives in each channel.
Enhanced Mode (default)	Enable both SATA and PATA. Max of 6 IDE drives are supported.
SATA Only	SATA is operating in legacy mode.

4-7-2 Super IO Function


Phoenix-AwardBIOS CMOS Setup Utility
Super IO Function
Onboard Serial Port 1 [3F8/IRQ4]
Onboard Serial Port 2 [2F8/IRQ3]
PWRON After PWR-Fail [Former-Sts]
Item Help
Menu Level ►
↑ ↓ →←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

Onboard Serial Port 1&2

Select an address and corresponding interrupt for the first and the second serial ports. Settings are: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

PWRON After PWR-fail

This item specifies whether your system will reboot after a power failure or interrupt occurs. Settings are: Off: Leaves the computer in the power off state.

On: Leaves the computer in the power on state.

Former-Sts: Restores the system to the status before power failure or interrupt occurred (Default).

4-7-3 USB Device Function

```
                    Phoenix-AwardBIOS CMOS Setup Utility
                          USB Device Function

  USB 1.0 Controller              [ Enabled ]          |  Item Help
  USB 2.0 Controller              [ Enabled ]          |
  USB Operation Mode              [ High Speed ]       |  Menu Level ►
  USB Keyboard Function           [ Enabled ]          |
  USB Mouse Function              [ Enabled ]          |
  USB Storage Function            [ Enabled ]          |

↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
   F5:Previous Values      F6: Fail-Safe Defaults     F7:Optimized Defaults
```

USB 1.0 Controller

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB peripherals.
Settings are: Enabled (default), Disabled.

USB 2.0 Controller

Select Enabled if your system contains a Enhanced Serial Bus (USB) controller and you have a USB peripherals.
Settings are: Enabled (default), Disabled.

USB Operation Mode

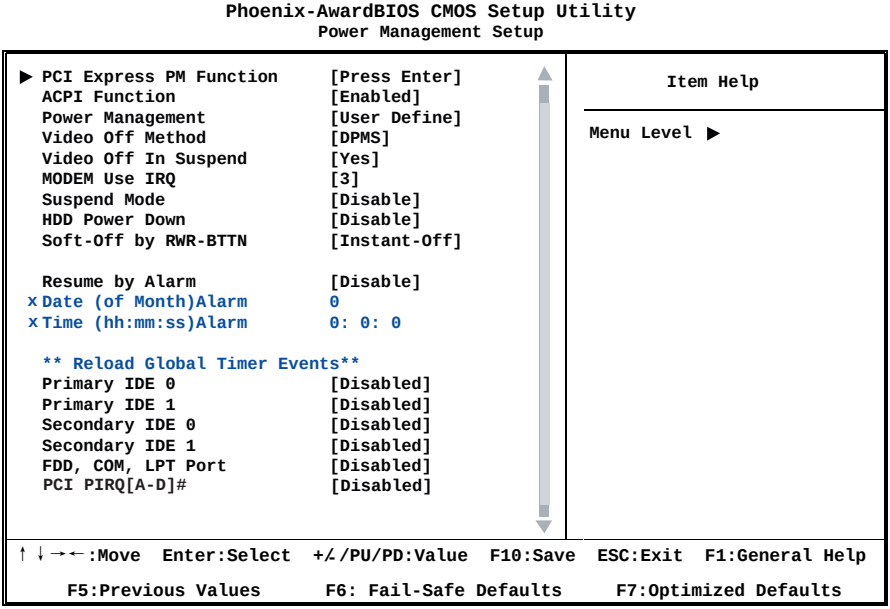
High speed:
If USB device was high speed device, then it operated on high speed mode. If USB device was full/low speed device, then it operated on full/low speed mode.
Full/Low Speed:
All of USB device operated on full/low speed mode.

USB Keyboard Function/ USB MOUSE Function/USB Storage Function

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard or USB mouse and USB storage.
Settings are: Enabled (default), Disabled.

4-8 Power Management Setup

The Power Management Setup allows you to configure your system to most effectively save energy saving while operating in a manner consistent with your own style of computer use.


Phoenix-AwardBIOS CMOS Setup Utility
Power Management Setup
▶ PCI Express PM Function [Press Enter]
ACPI Function [Enabled]
Power Management [User Define]
Video Off Method [DPMS]
Video Off In Suspend [Yes]
MODEM Use IRQ [3]
Suspend Mode [Disable]
HDD Power Down [Disable]
Soft-Off by RWR-BTTN [Instant-Off]
Resume by Alarm [Disable]
x Date (of Month)Alarm 0
x Time (hh:mm:ss)Alarm 0: 0: 0
** Reload Global Timer Events**
Primary IDE 0 [Disabled]
Primary IDE 1 [Disabled]
Secondary IDE 0 [Disabled]
Secondary IDE 1 [Disabled]
FDD, COM, LPT Port [Disabled]
PCI PIRQ[A-D]# [Disabled]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

PCI Express PM Function

Please refer to section

ACPI Function

This item allows you to Enabled/Disabled the Advanced Configuration and Power Management (ACPI).

Settings are: Enabled (default) and Disabled.

Video Off Method

This determines the manner in which the monitor is blanked.

DPMS (default)	Initial display power management signaling.
Blank Screen	This option only writes blanks to the video buffer.
V/H SYNC+Blank	This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Video Off in Suspend

This determines the manner in which the monitor is blanked.

Yes	Video will off.
No	Video always On.

MODEM Use IRQ

This determines the IRQ in which the MODEM can use.
The settings are: 3(default), 4, 5, 7, 9, 10, 11, NA.

Resume by Alarm

This function is for setting date and time for your computer to boot up. During Disabled, you cannot use this function. During Enabled, choose the Date and Time Alarm:

Date(of month) Alarm

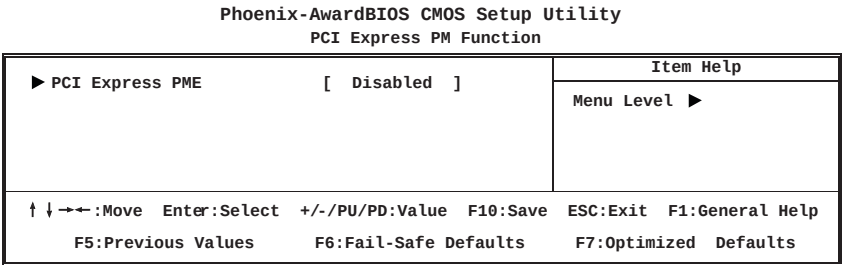
You can choose which month the system will boot up. Set to 0, to boot every day.

Time(hh:mm:ss) Alarm

You can choose what hour, minute and second the system will boot up.

Note: If you have change the setting, you must let the system boot up until it goes to the operating system, before this function will work

4-8-1 PCI Express PM Function

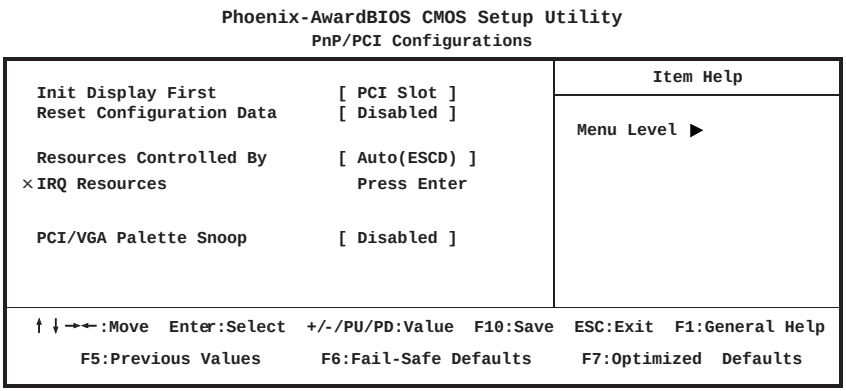

Phoenix-AwardBIOS CMOS Setup Utility
PCI Express PM Function
▶ PCI Express PME [Disabled]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

PCI Express PME

This item allows you to wake-up system, when PME event has presence.

4-9 PnP/PCI Configuration Setup

This section describes how to configure the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at the speed the CPU itself keeps when CPU communicates with its own special components. This section covers some very technical items and we strongly recommended that only experienced users should make any change to the default settings.


Phoenix-AwardBIOS CMOS Setup Utility
PnP/PCI Configurations
Item Help
Init Display First [PCI Slot]
Reset Configuration Data [Disabled]
Menu Level ▶
Resources Controlled By [Auto(ESCD)]
×IRQ Resources Press Enter
PCI/VGA Palette Snoop [Disabled]
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Reset Configuration Data

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot. The settings are: Enabled and Disabled.

Resource Controlled By

The Award Plug and Play BIOS can automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows 95/98. If you set this field to "manual", choose a specific resource by going into each sub menu that follows this field.
Settings are: Auto(ESCD) (default) or Manual.

IRQ Resources

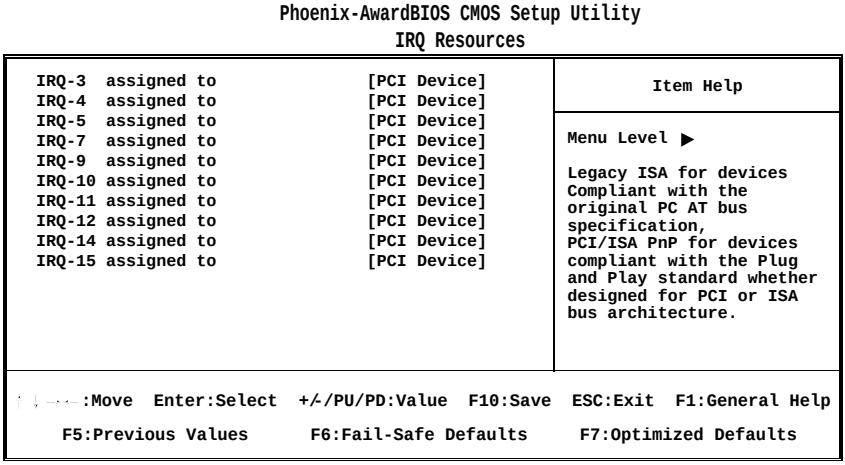
Please refer section.

PCI/VGA Palette Snoop

Leave this field at Disabled. The settings are Enabled or Disabled.

4-9-1 IRQ Resources

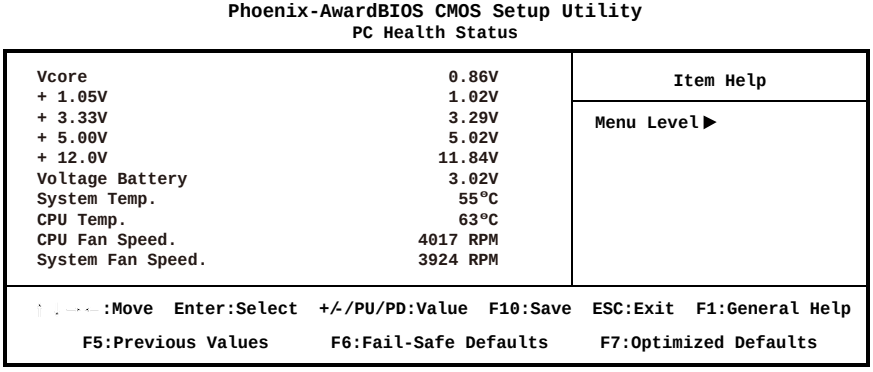
When resources are controlled manually, each system interrupt is assigned a type, depending on the type of device using the interrupt.


Phoenix-AwardBIOS CMOS Setup Utility
IRQ Resources
IRQ-3 assigned to [PCI Device]
IRQ-4 assigned to [PCI Device]
IRQ-5 assigned to [PCI Device]
IRQ-7 assigned to [PCI Device]
IRQ-9 assigned to [PCI Device]
IRQ-10 assigned to [PCI Device]
IRQ-11 assigned to [PCI Device]
IRQ-12 assigned to [PCI Device]
IRQ-14 assigned to [PCI Device]
IRQ-15 assigned to [PCI Device]
Item Help
Menu Level ▶
Legacy ISA for devices Compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture.
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

4-10 PC Health Status

This section shows the status of your CPU, Fan, and overall system.

This is only available when there is Hardware Monitor function onboard.



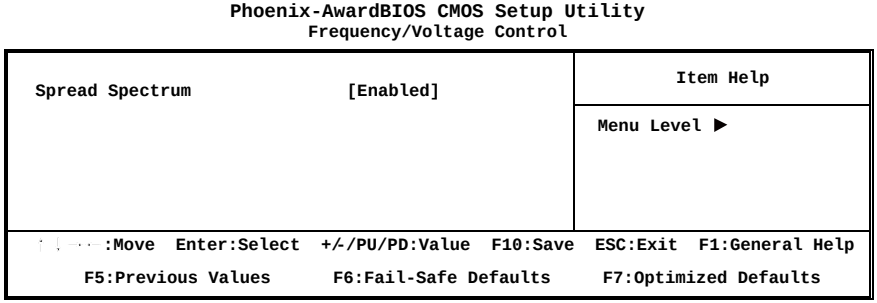
Current CPU Temperature/Current System Temp

Vcore/+1.05V/+3.3V/+5V/+12V

This will show the CPU/FAN/System voltage chart.

4-11 Frequency/Voltage Control

This section is to set CPU Frequency Control.



Spread Spectrum

This item allows you to set the CPU Host/PCI clock Spread Spectrum.
Settings are: Disabled or Enabled. (default)

4-12 Load Fail-Safe Defaults

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N)? N

Press <Y> to load the default values that are factory settings for optimal system operation performance.

4-13 Set Supervisor/ User Password

You can set supervisor password, user password, or both. The differences are:

Supervisor password: You can enter the setup menus and change the options.

User password: You can enter the setup menus but do not have the right to change the options. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed will clear any previous password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection without entering password. To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm if you want to disable the password. Once the password is disabled, the system will boot and you can enter Setup menus freely.

PASSWORD DISABLED.

When a password has been enabled, you have to enter it every time before you enter the Setup. This prevents an unauthorized person from changing any part of your system configuration.

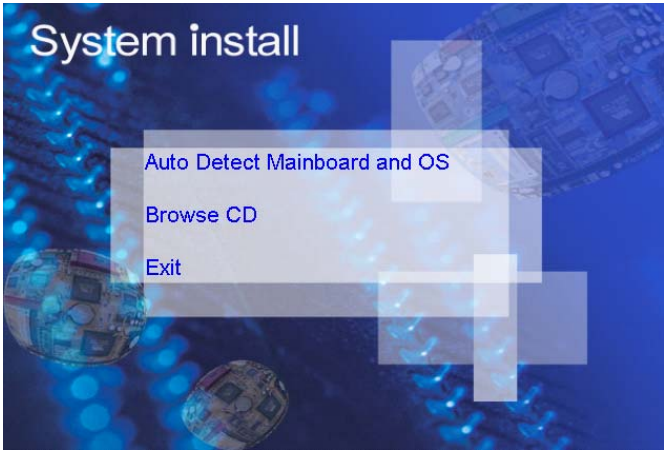
Chapter 5

DRIVER INSTALLATION

There is a SYSTEM INSTALL CD disk in the package. This CD has all the drivers you need and some free application programs and utility programs. In addition, this CD also includes an auto-detect software which can tell you which hardware is installed and which driver is needed so that your system can function properly.
We call this auto detect software SYSTEM INSTALL.

SYSTEM INSTALL Supports WINDOWS 2000/XP

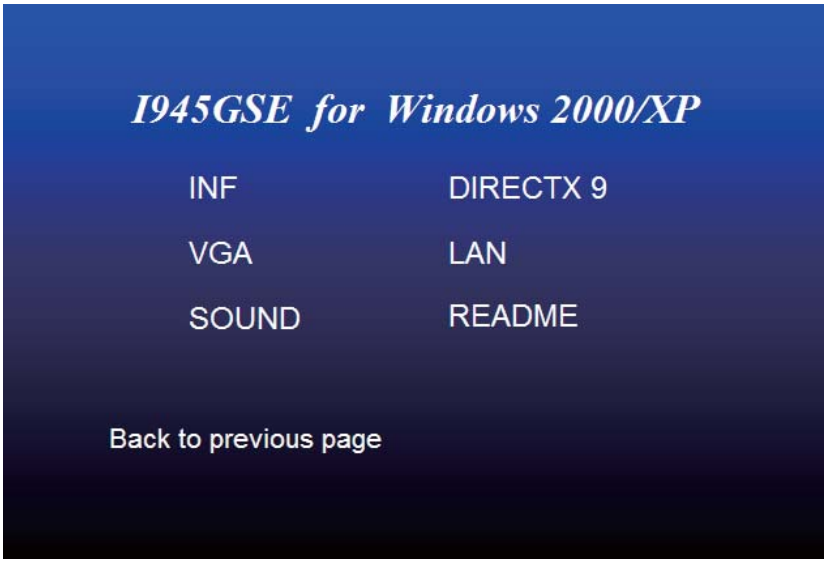
Insert the CD into your CD-ROM drive and the SYSTEM INSTALL Menu should appear as below. If the menu does not appear, double-click MY COMPUTER and double-click CD-ROM drive or click START, click RUN, and type X:\SETUP.EXE (assuming X is your CD-ROM drive).



From SYSTEM INSTALL MENU you may make 3 selections:

1 . Auto detect main board and OS Into auto install driver Menu
2 . Explore CD to explore the contents of the CD
3 . EXIT to exit from SYSTEM INSTALL menu

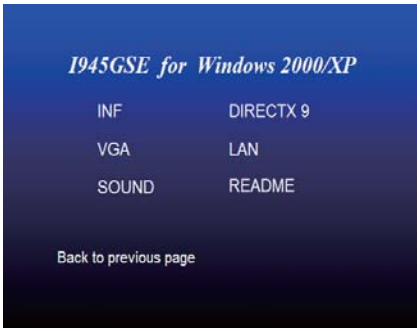
Auto install driver Menu



1. INF install Intel 945 GSE chipset system driver
2. VGA install on-board VGA driver
3. SOUND install VIA HID Audio Codec Audio driver
4. DIRECTX install DirectX 9 driver
5. LAN to LAN install driver readme file

Each selection is illustrated as below:

5-1 Inf Install INTEL 945GSE Chipset system driver



1.Click INF when System Install MENU appears

Intel® Chipset Device Software
Intel® Chipset Device Software
Welcome to the Setup Program
This setup program will install the Intel® Chipset Device Software onto this computer. It is strongly recommended that you exit all programs before continuing.
< Back
Next >
Cancel
Intel® Installation Framework

2.Click NEXT when Chipset Software Install Utility appears

Intel® Chipset Device Software
Intel® Chipset Device Software
License Agreement
You must accept all of the terms of the license agreement in order to continue the setup program. Do you accept the terms?
INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution & Single User)
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
Do not use or load this software and any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By loading or using the Software, you agree to the terms of this Agreement. If you do not wish to so agree, do not install or use the Software.
Please Also Note:
* If you are an Original Equipment Manufacturer (OEM), Independent Hardware Vendor (IHV), or Independent Software Vendor (ISV), this complete LICENSE AGREEMENT applies;
< Back
Yes
No
Intel® Installation Framework

3. This license agreement appear, click Yes, the Click NEXT.

Intel® Chipset Device Software
Intel® Chipset Device Software
Readme File Information
Refer to the Readme file below to view the system requirements and installation information. Press the Page Down key to view the rest of the file.
* Product: Intel(R) Chipset Device Software
* Release: Production Version
* Version: 8.3.1.1009
* Target Chipset#: X38 & 3200/3210 Chipset
* Date: July 26 2007
< Back
Next >
Cancel
Intel® Installation Framework

4. This is Readme information appear, Click NEXT.

Intel® Chipset Device Software
Intel® Chipset Device Software
Setup Progress
Please wait while the following setup operations are performed:
Installing Driver: Intel(R) 82801G (ICH7 Family) USB Universal Host Controller - 27C9
Version: 8.2.0.1008
Installing Driver: Intel(R) 82801G (ICH7 Family) USB Universal Host Controller - 27CA
Version: 8.2.0.1008
Installing Driver: Intel(R) 82801G (ICH7 Family) USB Universal Host Controller - 27CB
Version: 8.2.0.1008
Installing Driver: Intel(R) 82801G (ICH7 Family) USB2 Enhanced Host Controller - 27CC
Version: 8.2.0.1008
Click Next to continue.
Next
Intel® Installation Framework

5. Click Next.

Intel® Chipset Device Software
Intel® Chipset Device Software
Setup Is Complete
You must restart this computer for the changes to take effect. Would you like to restart the computer now?
Yes, I want to restart this computer now.
No, I will restart this computer later.
Click Finish, then remove any installation media from the drives.
Finish
Intel® Installation Framework

6. Click Finish to restart computer

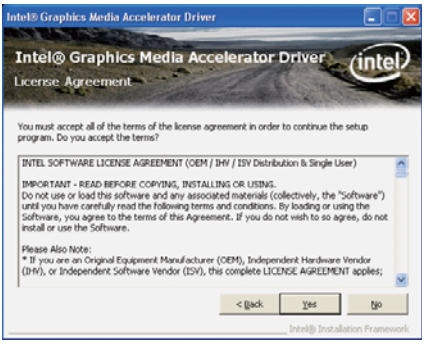
NOTE: SYSTEM INSTALL will auto detect file path
X:\driver\INTEL\I945\INF\infinst_autol.exe
This driver supports WINDOWS 2000\XP\Vista

5-2 VGA Install Intel 945GSE VGA Driver

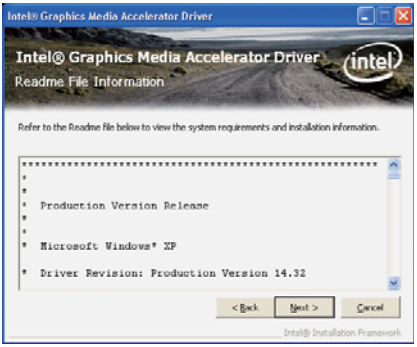
1. Clic k VGA when System Install MENU appears.

Intel® Graphics Media Accelerator Driver
Intel® Graphics Media Accelerator Driver
Welcome to the Setup Program
This setup program will install the Intel® Graphics Media Accelerator Driver onto this computer. It is strongly recommended that you exit all programs before continuing. Click Next to continue.
< Back
Next >
Cancel
Intel® Installation Framework

2.Click NEXT when Intel ® Chipset Graphics Driver Software Setup appears.


Intel® Graphics Media Accelerator Driver
Intel® Graphics Media Accelerator Driver
License Agreement
You must accept all of the terms of the license agreement in order to continue the setup program. Do you accept the terms?
INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution & Single User)
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
Do not use or load this software and any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By loading or using the Software, you agree to the terms of this Agreement. If you do not wish to so agree, do not install or use the Software.
Please Also Note:
* If you are an Original Equipment Manufacturer (OEM), Independent Hardware Vendor (IHV), or Independent Software Vendor (ISV), this complete LICENSE AGREEMENT applies;
< Back
Yes
No
Intel® Installation Framework

3. Click NEXT when Intel ® Graphics Media Accelerator Driver Software appear


Intel® Graphics Media Accelerator Driver
Intel® Graphics Media Accelerator Driver
Readme File Information
Refer to the Readme file below to view the system requirements and installation information.
****
* Production Version Release
* Microsoft Windows* XP
* Driver Revision: Production Version 14.32
< Back
Next >
Cancel
Intel® Installation Framework

4.Click YES, This Announce CopyRight

Intel® Graphics Media Accelerator Driver
Intel® Graphics Media Accelerator Driver
Setup Progress
Please wait while the following setup operations are performed:
Next

5. Click Next.

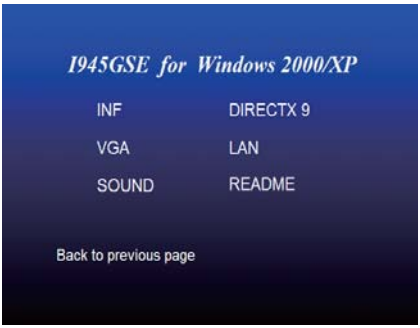
Intel® Graphics Media Accelerator Driver
Intel® Graphics Media Accelerator Driver
Setup Is Complete
You must restart this computer for the changes to take effect. Would you like to restart the computer now?
Yes, I want to restart this computer now.
No, I will restart this computer later.
Click Finish, then remove any installation media from the drives.
Finish

6. Click FINISH to Restart Computer

NOTE: The path of the file

For WINDOWS XP/2000
X:\driver\INTEL\I945\VGA\win2k_xp\Setup.exe
For WINDOWS Vista
X:\driver\INTEL\I945\VGA\winvista\Setup.exe
For WINDOWS Vista 64
X:\driver\INTEL\I945\VGA\winvista64\ Setup.exe
For WINDOWS XP 64
X:\driver\INTEL\I945\VGA\winxp64\ Setup.exe

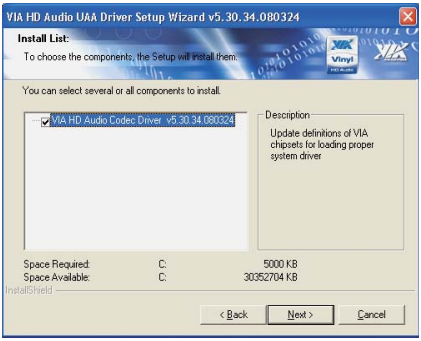
5-3 SOUND Install VIA HID Audio Codec Driver



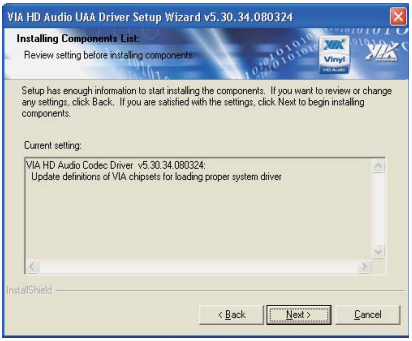
1.Click SOUND when System Install MENU appears.

VIA HD Audio UAA Driver Setup Wizard v5.30.34.080324
Welcome to the Install Wizard for VIA HD Audio UAA Driver Setup Program
The Install Wizard will install VIA HD Audio UAA Driver Setup Program on your computer. To continue, click Next.
< Back
Next >
Cancel

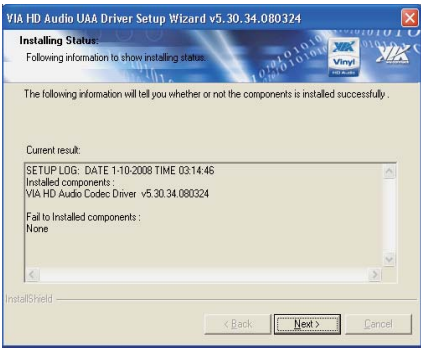
2.Click Next.


VIA HD Audio UAA Driver Setup Wizard v5.30.34.080324
Install List:
To choose the components, the Setup will install them.
You can select several or all components to install.
VIA HD Audio Codec Driver v5.30.34.080324
Description
Update definitions of VIA chipsets for loading proper system driver
Space Required: C: 5000 KB
Space Available: C: 30352704 KB
InstallShield
< Back
Next >
Cancel

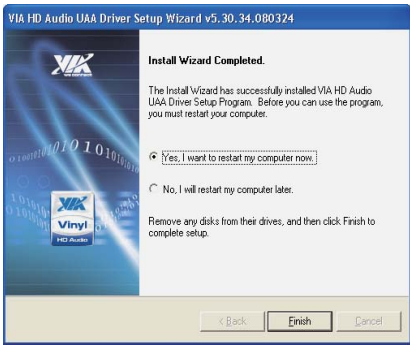
3. Click Next.


VIA HD Audio UAA Driver Setup Wizard v5.30.34.080324
Installing Components List:
Review setting before installing components:
Setup has enough information to start installing the components. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin installing components.
Current setting:
VIA HD Audio Codec Driver v5.30.34.080324:
Update definitions of VIA chipsets for loading proper system driver
InstallShield
< Back
Next >
Cancel

4.Click Next to begin installing driver. The program might be few minutes.


VIA HD Audio UAA Driver Setup Wizard v5.30.34.080324
Installing Status:
Following information to show installing status.
The following information will tell you whether or not the components is installed successfully.
Current result:
SETUP LOG: DATE 1-10-2008 TIME 03:14:46
Installed components :
VIA HD Audio Codec Driver v5.30.34.080324
Fail to Installed components :
None
InstallShield
< Back
Next >
Cancel

5. Click Next


VIA HD Audio UAA Driver Setup Wizard v5.30.34.080324
Install Wizard Completed.
The Install Wizard has successfully installed VIA HD Audio UAA Driver Setup Program. Before you can use the program, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
< Back
Finish
Cancel

6. Click FINISH to Restart Computer

NOTE: The path of the file For 2000 \ XP
X:\driver\INTEL\I945\SOUND\setup.exe

5-4 HOW TO UPDATE BIOS

Under DOS Mode
STEP 1. Prepare a bootable disc.
(Storage device could be USB FDD, CF card, or USB pen drive.)
STEP 2. Copy utility program to your bootable disc. You may copy it from DRIVER CD X:\Dirver\bios\AWDFLASH.EXE or download it from our web site.
STEP 3. Copy the latest BIOS for your LEX motherboard from our web site to your bootable disc.
STEP 4. (Here take CI270C as an example, please enter your motherboard's name)
Insert your bootable disc into X: (X could be C:, A: or others.
It depends on which type of storage device you use.)
Start the computer and type
X:\ Awdflash CI270Cxx.BIN /SN/PY/WB/CP/CD/CC/R
CI270Cxxx.BIN is the file name of the latest BIOS. It may be CI270CA1.BIN or CI270CA2.BIN, etc. Please leave one space between .BIN & /SN/PY/WB/CP/CD/CC/R

By 945GSE series mainboard, pls type
X:\Awdflash CI270Cxxx.BIN /SN/PY/WB/CP/CD/CC/R

SN : don't save the current BIOS data
PY : renew the current BIOS data
WB : always programming Boot Block
CP : clear PnP(ESCD) data after programming
CD : clear DMI data after programming
CC : clear the current CMOS data
R : restart computer

STEP 5. Press ENTER and the BIOS will be updated,
Computer will restart automatically.

Appendix A: Power Consumption Test

Condition

Item	Spec
CPU	N270 1.6GHz
SDRAM	DDR2 533 / 1GB
Operating System	Windows XPP/SP3
Test Program	3D Mark 2001SE
HDD 3.5" SATA	Standard HDD
HDD 2.5" SATA	Slim Type HDD

Test Result for reference !

Hard Disk	Power off	Start up		Operation Maximum	Shut down Maximum	In put Voltage
		Maximum	Stable			
Standard HDD	0.11A	3.23A	1.85A	3.01A	2.20A	9V
	0.09A	2.38A	1.36A	2.07A	1.59A	12V
	0.05A	1.19A	0.69A	1.00A	0.81A	24V
	0.04A	0.91A	0.53A	0.83A	0.62A	32V
Slim Type HDD	0.11A	2.04A	1.35A	2.23A	1.68A	9V
	0.10A	1.53A	1.03A	1.67A	1.25A	12V
	0.05A	0.75A	0.52A	0.81A	0.64A	24V
	0.04A	0.60A	0.41A	0.64A	0.49A	32V

The power consumption depends on your device choice!

Appendix B: Resolution list

640 x 480 x (256 / 16bit / 32bit)
800 x 600 x (256 / 16bit / 32bit)
1024 x 768 x (256 / 16bit / 32bit)
1152 x 864 x (256 / 16bit / 32bit)
1280 x 600 x (256 / 16bit / 32bit)
1280 x 720 x (256 / 16bit / 32bit)
1280 x 768 x (256 / 16bit / 32bit)
1280 x 800 x (256 / 16bit / 32bit)
1280 x 960 x (256 / 16bit / 32bit)
1280 x 1024 x (256 / 16bit / 32bit)
1400 x 1050 x (256 / 16bit / 32bit)
1440 x 900 x (256 / 16bit / 32bit)
1600 x 900 x (256 / 16bit / 32bit)
1600 x 1200 x (256 / 16bit / 32bit)
1920 x 1080 x (256 / 16bit / 32bit)
1920 x 1200 x (256 / 16bit / 32bit)